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Bankrtuptcy in Russia

External Management Performance

Anastasia Zakolyukina

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The project examines the performance of the external management procedure on the data set from the arbitration court of the Udmurt Republic and the unique data set of politically connected firms that went bankrupt 1995–2004 in Russia. We use a narrow definition of political connections: a CEO or a member of an executive board being a member of parliament or a top executive at the federal, regional, or municipal level. We show that political connections matter for the timing of bankruptcy procedures. Also, political connections do not result in efficiency-enhancing bankruptcies; in line with a politicians-and-firms story, politically connected firms preserve employment rather than increase productivity. Based on the court level data, we find that debt concentration increases likelihood of external management initiation, whereas external management itself decreases the share of total debt repaid. However, there is no evidence of administrative expenses inflation in favor of a particular unsecured creditor under the assumption of a tradeoff between inflation of administrative expenses and main debt repayment.

Keywords. Russia, bankruptcy, external management, liquidation, political connections.

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Anastasia Zakolyukina
New Economic School
Tel.: (495) 129 39 11
Fax: (495) 129 37 22
E-mail: azakolyukina@gmail.com

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NON-TECHNICAL SUMMARY

Emerging market countries' economic growth largely depends on investments; therefore, importance of protection of investor rights makes functioning bankruptcy regime a top priority for policy makers. Generally, if investor rights are protected then debtors benefit from lower cost of capital. At the same time, effective bankruptcy law should provide framework for discrimination between firms that should be liquidated and ones that should be preserved as going concerns. Consequently, two bankruptcy procedures exist in Russia: liquidation (US Chapter-7-like) that ceases firms' operations and external management (US Chapter-11-like) that provides opportunity for restructuring.

Numerous anecdotal evidence and prior research on Russian bankruptcy law reveal capture of bankruptcy procedures. Prior study by Lambert-Mogiliansky, Sonin, and Zhuravskaya (2003) argues that hostility of regional governors toward federal center increases likelihood of external management, whereas external management itself does not bring any efficiency improvement and leaves outside creditors' claims unsatisfied. In the recent version of their paper from 2006 they also present evidence on the effect of judicial quality. However, debate whether a bankruptcy procedure should be liquidation — or continuation-biased is not resolved yet in academic literature. The results of our study on the sample of Russian firms go in line with the argument of Berglof, Bolton, Guriev, and Zhuravskaya (2006) for liquidation-biased procedure in emerging market economies.

We examine three aspects of Russian bankruptcy: (1) initiation; (2) performance; and (3) debt repayment. The effect of the presence of direct political connections is studied in the data set for large and medium Russian industrial firms whereas external management issues are studied in the data set from the arbitration court of the Udmurt Republic.

Importantly, Russian judiciary has discretionary power over initiation of external management or liquidation. At the same time, politicians who simultaneously manage firms might exercise influence over judges in order to impose preferable procedure on their firms in case of bankruptcy; external management seems to be this procedure since it provides time and resources to turn the outcome in politicians' favor, *i.e*. to bail out, to prevent employment cuts, *etc*. Using Cox proportional hazards regression with IV technique, we find that the presence of direct political connections defers liquidation and does not affect timing of external management. Moreover, politically connected firms do not have significantly different performance under external management compared with those that are not politically connected.

Further, the data on bankruptcy cases from the arbitration court of the Udmurt Republic is analyzed using logit regressions. The results reveal positive effect of debt concentration on initiation of external management, whereas external management decreases probability of high debt repayment. That might manifest abuse of external management when assets are tunnelled by parties since high debt concentration implies the absence of checks from rival creditors. Surprisingly, we do not find

evidence of rise in administrative expenses in favor of a particular unsecured creditor; but the results of this test heavily depend on our assumptions.

Overall, evidence presented in this paper coincide with the view of some practitioners and researches that Russian bankruptcy should be liquidation-biased. However, even keeping less sophisticated procedure one should be concerned with independence of judges that is currently quite an issue in Russia.

1. INTRODUCTION

The lack of effective bankruptcy law has long been recognized as one of the major institutional weaknesses of Russia's business environment (Tompson, 2004). Non-transparent procedures, absence of an effective mechanism for monitoring bankruptcy administrators, and high degree of politicization weaken the protection of both debtors and creditors. As a consequence, it adversely affects economic growth by making outside financing more expensive.

This research is the first one to question the effect of the presence of direct political connection on the bankruptcy initiation and firms' performance under external management. In addition, we look at the court-level data on bankruptcy cases to find what drives external management initiation and how this procedure affects debt repayment.

Current law, adopted in 2002, is the third post-Soviet bankruptcy law. The first one, adopted in 1992, was woefully inadequate and barely functioning at all leading to just a few procedures (Tompson, 2004). Thereafter, the law of 1998 almost doubled the number of cases. The procedure was easily manipulated: bogus debts were often employed; creditors did not accept repayments to keep debtors in bankruptcy; complicated business chains were created to strip assets, *etc*. The government estimated that at least a third of all bankruptcy cases are either hostile takeovers or attacks by firms who have bought up rivals' debts specifically for the purpose of bankrupting them. New industry of bankruptcies "to order" emerged.

In Russia, courts have discretion over creditors' decision about initiation of external management or liquidation. External management is a continuation-biased procedure when a firm is given the chance to restore to solvency, whereas a firm ceases operation under liquidation. In case solvency is not restored within a certain time-frame under external management, the firm goes into liquidation. Yet, there is no agreement whether bankruptcy should be liquidation or continuation-biased in the academic literature. However, empirical evidence from this study argue for the liquidation-biased procedure.

This research is based on several stylized facts about bankruptcy in Russia: (1) judges' discretion over initiation of external management or liquidation; (2) high political involvement in case of large insolvent firms; (3) low rate of restorings to solvency under external management, around 3%; (4) often corrupt bankruptcy administrators; (5) low ultimate debt repayments to unsecured creditors. Undoubtedly, this is not a complete list. Below, we present the discussion of these stylized facts.

As a rule, bankruptcy outcome is mainly shaped by court-appointed bankruptcy administrators who manage each stage. Corruption and manipulation of bankruptcy proceeds flourish despite administrators' legal responsibility to ensure that rights of both creditors and debtors are respected. As the journal Expert (2001) argues, appointment of a friendly bankruptcy administrator is decisive.

Moreover, bankruptcy administrators often violate the absolute priority rule in the interests of particular creditors. The ordering of debt repayment (the absolute priority rule), as stated by the 1998

bankruptcy law, tended to mean that unsecured creditors had little hope to recover anything because their claims were to be satisfied only after tax claims. At the same time tax claims represent a substantial share of total debt, around 70%. We suggest that abuse of the absolute priority rule could be done using external management (that holds also for the 2002 law): a creditor becomes an administrative expenses claimant (these expenses are repaid first) and secures at least some share of liquidation value.

Unfortunately, current attempts to prevent abuses by bankruptcy administrators are not successful. The evolution of monitoring bodies is presented in Appendix A1.

Overall, external management does not accomplish its legislative goal and most firms are liquidated after the procedure. Low rate of successful solvency restorings brings up a natural question: What was then the motivation behind initiation of external management? To answer this question we examine two hypothetical scenarios: politicians-and-firms and administrative-expenses. The politicians-and-firms scenario argues that external management is exploited by politically connected firms in order to preserve employment and provide bailout. Whereas the administrative-expenses scenario suggests that external management is initiated to inflate administrative expenses in favor of a particular unsecured creditor.

First, to test the politicians-and-firms scenario we use the panel of firms' direct political connections 1995–2004. We find that this scenario holds partially: the presence of direct political connections postpones liquidation but is irrelevant for external management; moreover, performance of politically connected firms is not different from performance of not politically connected ones in terms of sales and labor productivity. At the same time, there is no reduction in employment following external management, whereas excess employment is claimed to be responsible for low efficiency of Russian firms. As a result, external management temporary prevents employment cuts at the expense of low labor productivity irrespective to the presence of direct political connections.

Second, to test the administrative-expenses scenario we use the data set from the arbitration court of the Udmurt Republic. This scenario also holds partially: higher concentration of debt leads to greater likelihood of external management being initiated and external management decreases likelihood of high total debt repayment. However, inflation of administrative expenses in favor of a particular unsecured creditor is rejected. We test the administrative-expenses scenario under the assumption of a tradeoff between rise in administrative expenses and repayment of the main debt which emerged before bankruptcy. In other words, if the creditor inflates administrative expenses then, in the case the firm is liquidated, his main debt (which is paid out after repayments to employees, secured creditors and pro rata with tax arrears) will decrease.

This scenario implies that if the creditor's desired procedure is initiated by the court's discretion, *i.e.* under greater threat of manipulation by the creditor, then the main debt repayment to the creditor is expected to decrease under the assumption of the tradeoff. So far, there is no evidence that support this hypothesis. Important to note that rejection of the administrative-expenses scenario by this particular test does not imply that there is no inflation of expenses since the creditor might not face the

assumed tradeoff; so that he gets advantage of both administrative expenses and his main debt repayment by manipulating the procedure at the expense of other creditors.

The ultimate objective of this research is to investigate the performance of the external management procedure in order to take a stand in the dispute over whether bankruptcy procedure should be continuation-biased or liquidation-biased. The obtained results argue in favor of liquidation-biased procedure for Russia.

The paper proceeds as follows. Section 2 provides the literature review. Section 3 presents the key story that has motivated this research. Section 4, 5, and 6 list hypotheses and highlight empirical testing regarding: (1) initiation of bankruptcy; (2) performance under external management; and (3) effect of external management on debt repayment. Section 7 concludes.

2. REVIEW OF LITERATURE

There is a large strand of literature studying the phenomenon of bankruptcy. Ideally, the bankruptcy law should (1) protect creditors, (2) impose financial discipline on managers, (3) induce restructuring, and (4) free assets from inefficient use (Hart, 2001).

Hart (2000) differentiates between two main types of bankruptcy procedures around the world: an assets sale (or a cash auction), and a structured bargaining. Asset sale is the simplest procedure when a firm is liquidated under the supervision of a trustee or a receiver. This procedure in the environment of perfect capital markets generates an ex post efficient outcome. Nevertheless, Hart (2000) emphasizes that all recent changes have been in the direction of structured-bargaining-like procedures.

A number of countries have developed bankruptcy procedures based of the idea of structured bargaining over the future of an insolvent firm — in particular, whether it should be liquidated or reorganized and how its value should be divided up. The first creditors meeting decision about initiation of external management or liquidation under Russian law is a result of such bargaining. The leading example of structured bargaining outside of Russia is the Chapter 11 of the US Bankruptcy Code.

However, the Chapter 11 and Russian external management are not the same. As under the Chapter 11, under external management a stay is put on creditors' claims (that is, they are frozen; no creditor is allowed to seize any of the firm's assets during the process). Claim-holders behave independently, whereas under the Chapter 11 they are grouped into classes according to the type of the claim they have and committees or trustees are appointed to represent each class. In contrast to Russian external management, incumbent management usually runs the company under the Chapter 11, whereas it is deprived of all control rights in Russia.

Still, there is a great debate about optimal bankruptcy law that satisfies three main objectives outlined above by Hart. Several modifications for increasing efficiency of bankruptcy were offered by Aghion *et al.* (1992), Hart *et al.* (1997), Hart (2000), and Bebchuk (2000). Independent perspective

for different optimality features of the law were also considered by Berkovitch *et al.* (1997), Berkovitch and Israel (1998), Gennaioli and Rossi (2006) and many others.

Theoretical and empirical research concludes that there is no one-size-fits-all procedure and Davydenko and Franks (2005) suggest that bankruptcy codes do matter. The authors find that despite the bank lending adjustment to a particular bankruptcy law recovery rates are substantially different across the three countries with 92% in the UK, 67% in Germany, and 56% in France. Their observation goes in line with ranking of creditors protection in these countries: France has the lowest, the UK — the highest, and Germany lies in the middle.

The strike of a right balance between continuation and liquidation is a special topic in the design of bankruptcy. Georgakopoulos (2001) and Shleifer and Vishny (1992) provide arguments in favor of continuation-biased law: recessions, credit crunches or selling cascades, industry-wide financial crises. Often, the absence of the continuation chapter rises concerns about over-liquidation. However, Stromberg (2000) demonstrates that agents themselves make efficient choice for continuation even when, as a rule, only liquidation procedure is utilized. He considers the cash auction bankruptcy in Sweden and finds strong evidence that a common bankruptcy outcome is a sale of the assets back to the incumbent management. That is the cash auction is very similarly implemented to the Chapter 11 reorganization procedure.

At the same time, continuation-biased procedure, like the Chapter 11 and external management, is subject to a great deal of criticism that involves: (1) high costs; (2) violation of absolute priority rule; (3) judicial discretion; (4) politicization of bankruptcy. Below we provide a review of each particular issue.

Several papers, such as Cutler and Summers (1988), Glison (1998), LoPucki and Whitford (1993), and Tompson (2004), discuss high costs of bankruptcy procedures in terms of time, legal and administrative expenses, and the threat of abuse by judges. The Chapter-11-like procedures increase these costs since they are more prone to manipulation, significantly more time-consuming, and involve greater uncertainty. These costs, according to Weiss (1990) can be direct and indirect ones. Direct costs encompass legal and administrative fees, including costs of lawyers, accountants and other professionals involved in the bankruptcy filing. Indirect costs include a wide range of unobservable opportunity costs: lost sales and a decline in the value of inventory; increased operating costs; a reduction in the firm's competitiveness.

Continuation-biased procedures sometimes violate the absolute priority rule (ordering of debt repayments stated by the law). For instance, we may observe a manipulation within administrative expenses in external management so as to allow unsecured creditors to change their status from 'junior' to 'senior' claimants, whereas under the Chapter 11 creditors may voluntarily allow violation of the priority to obtain their proceeds in a timely manner (Weiss, 1990).

The paper by Lambert-Mogiliansky, Sonin, and Zhuravskaya (2003) argues that Russian regional arbitration courts are captured by regional authorities. As a result, regional governors and incumbent managers of large firms exploit courts' discretion over initiation of external management or

liquidation to impose external management in order to leave outside claim holders unsatisfied. At the same time, according to the Doing Business report (2005) there is indeed a positive relation between the level of discretionary court power in bankruptcy and corruption. Moreover, Lambert-Mogiliansky *et al.* (2003) suggest to deprive courts of their discretionary power in order to improve investor protection in Russia.

The issue of Russian ill-functioning judiciary is widely voiced by mass-media. Often, foreign investors prefer to resolve business disputes with Russian firms abroad. However, Hendley (2004) suggests that "unqualified pessimism about the enforceability of arbitrazh court judgements that has become standard in the scholarly literature and the popular press is unfounded".[1] Claessens and Klapper (2002) find that greater judicial efficiency is associated with more frequent use of bankruptcy, but combination of stronger creditor rights and greater judicial efficiency with less use; stay on assets (the case of external management) leads to fewer bankruptcies independently of the efficiency of judicial system due to possible assets tunnelling under the stay.

Needless to note that political dimension is also important for bankruptcy discussion since bankruptcy is often associated with a reduction in employment. Interesting theoretical and empirical research can be found in the analysis of political pressures from governors in order to protect local employment (Shleifer and Vishny, 1994; Desai and Goldberg, 2000; Slinko, Yakovlev, and Zhuravskaya, 2003). Most public firms are encouraged by politicians seeking votes to employ too many people — a politicians-and-firms story by Shleifer and Vishny (1994). Faccio (2005) discusses the effect of political connections on the value of the firm and its probability to be bailed out. She finds strong evidence that politically connected firms have significantly greater probability of being bailed out.

The empirical evidence obtained in this research are in favor of liquidation-biased procedure that agrees with the opinion expressed in Berglof *et al*. (2006). Moreover, the Doing Business report (2005) strongly suggests that the most efficient bankruptcy laws in the subsample of developing and transition countries prescribe simple, fast, and cheap liquidation procedure. The report also claims that delays in bankruptcy account for one half of the difference between the average recovery rates in rich and poor countries. Interesting to note that external management seems to have the full set of inefficiencies listed by the Doing Business report (2005) since it is a rather time-consuming and expensive procedure.

3. THE KEY STORY

The state-owned, meat-packing plant GUP "Vostochny" (of the Udmurt Republic) went bankrupt in 2000: a point in time in which the firm had accumulated wage arrears of 4.8 mln RUR (0.16 mln USD), budget and off-budget fund arrears of 28.8 mln RUR (0.89 mln USD), and trade arrears of

[1] Important to note that sample used is small and biased since only those who apply to arbitration courts were interviewed.

31.0 mln RUR (1 mln USD). The meat-processing plant had 60% share of the Republic's meat market and constituted a company-town. The firm was owned by the Republic's Ministry of Agriculture. FSFO[2] filed for bankruptcy and opted for initiation of external management.

One of the main external management objectives was to prevent employment cuts. The firm was reorganized into the joint-stock company OAO "Vostochny", and the regional government provided 25 mln RUR (0.83 mln USD) in budget-guaranteed credits in order to support the reorganization. Anecdotal evidence claims that shares mainly were distributed privately among government affiliates; creditors were not paid back in full. Interestingly, the external manager was simultaneously a deputy of the Republic's Duma and he took on the post as a director general after the bankruptcy procedure was completed.

Furthermore, this bankruptcy case is reported by the FSFO as a success story: the bankruptcy procedure has brought growth in employment, sales and labor productivity. In 2005, the firm employed 2336 people and its sales reached 1133 mln RUR (37.77 mln USD). We lack data on the firm's dynamics of labor productivity under the external management term. However, following bankruptcy, there was a 2.3-fold increase in labor productivity from 2000 to 2005.[3] Moreover, OAO "Vostochny" is listed as a top-five pig-farming meat-processing plant in Russia.[4] More external management success stories from the Udmurt Republic is in Appendix A2.

Our hypothetical scenario is the following. Politically connected (PC) firms are protected from entering the state of bankruptcy. Moreover, PCs matter for the timing of external management (EM) and liquidation (LQ). In addition, PC firms are bailed out under EM, no restructuring follows, and EM is imposed to preserve employment. Overall, EM leads to a decrease in the total debt repayment. The three aspects of EM are discussed in three separate sections: (1) initiation; (2) performance; and (3) total debt repayment.

It is important to note that we define direct PCs in the following manner: a firm has direct PC if the CEO or a member of the executive board is a member of parliament or a top executive at the federal, regional, or municipal level. Therefore, it should be noted that the effects of PCs generally are underestimated in this study since we do not take into account neither local nor indirect PCs.

4. INITIATION OF BANKRUPTCY

4.1. Hypotheses

This section discusses hypotheses related to the initiation of bankruptcy, in particular, effects of PCs.

H_1: PCs have *negative* effect (delay) on bankruptcy timing.

Theoretical motivation for this hypothesis can be found in a politicians-and-firms story by Sleifer and Vishny (1994): politicians may want to protect firms for the sake of preserving employment

[2] Federal Bankruptcy Service for Financial Rehabilitation and Bankruptcy.

[3] Labor productivity was 18.3 thousand RUR in 2000 and 42.2 thousand RUR in 2005 (in prices of 1995).

[4] Official web-site of OAO "Vostochny" is www.vostoc.ru.

(securing votes). The survey of Russian firms in 1996 claimed that 45% of Russian managers reported that firms they manage would be able to produce the same output with less labor.[5] Therefore, in the case of independent courts, there might be need for employment cuts under EM to restore solvency and to exit the bankruptcy state. So, the presence of PCs is expected to have negative effect on the timing of bankruptcy.

However, in the case of captured courts (Lambert-Mogiliansky *et al.* 2003), bankruptcy might provide means to leave outside creditors unsatisfied and to go out of the procedure without any reduction in employment. That might happen through EM when a firm is legally reorganized into a joint-stock company and creditors are paid out of the proceeds from its stock sale. Then employment is preserved in the new joint-stock company and incumbent management benefits from cancelling outstanding debts. So, under the alternative, we may get positive effect: PC firms take advantage of EM to leave outside claims unsatisfied and launch bankruptcy procedure as soon as it becomes easy-to-initiate, *e.g.* law 1998, 2002. For this reason, one might need to differentiate between the timing of EM and LQ.

H_2: PCs have *different effects* on the timing of EM and LQ initiation: *nonnegative* for EM and *negative* for LQ.

Judicial discretion with hypothetical political influence over judges can lead to special treatment of PC firms in bankruptcy context. For instance, courts' judgements in favor of PC EM can be motivated by social-importance of debtors.[6] There is anecdotal evidence that political connections, indeed, influence court decisions.

As an illustration consider the bankruptcy case of GUP "Kirishsky biohimichesky zavod" (KBHZ) where Mr. Davydov was appointed as an external manager in 1997. Mr. Davydov entered politics in 1990 as a member of the City Council of the town where KBHZ is located; since 1999 he served as a deputy in the regional parliament. In 1997, FSFO filed for bankruptcy of KBHZ (with federal tax arrears constituting 90% of the total debt) and the court initiated external management appointing Mr. Davydov as an external manager. In nine months from the bankruptcy filing KBHZ changed its legal address in order to be entitled for company-town status. Important to note that under the bankruptcy law back then, company-town firms could extend external management term up to 10 years when municipality agrees to guarantee its debt repayments. Unsurprisingly in 2000, the court extended external management term up to 6 years when municipality (where Mr. Davydov had served as a member of the City Council) agreed to be a guarantor of the creditors' claims. As a result, Mr. Davydov secured himself a CEO position and frozen tax arrears for 6 years. In 2000, FSFO appealed to the higher level court that decreed the lower level court to review its decision; however, the lower level court did not change its decision about extension of external management term (OOO "Regionalnoe

[5] See A. Moskovskaya, Izbytochnaya zanyatost' na promyshlennyh predpriyatiyah Rossii: pro at contra, *Voprosy Economiki* **1,** 50–72 (1998).

[6] Company-town (socially-important firm) is a firm that employs not less then 25% or 5000 residents of a built-up area (§ 169 law 2002).

agentstvo upravlenia dolgami", 2001). Moreover, from 2000 and on KBHZ was subsidized by the region and subsidies were not thoroughly motivated and controlled (Chamber of Control & Accounting of Leningrad oblast, 2003). One of possible explanations for the surprising luck of Mr. Davydov could be his extensive experience in politics both on the city and regional levels.

PCs can benefit firms by postponing or pushing forward a procedure in case of captured courts. In other words, if the hypothesis holds and we consider two insolvent firms but one of them has PCs whereas the other does not then PC firm will enjoy longer time period from enactment of the law 1998 (that states easy-to-initiate bankruptcy) till formal LQ rather than EM. Because EM does not induce firms' closure firms can still operate controlled by friendly external managers (Lambert-Mogiliansky *et al.*, 2003) leaving outside claims unsatisfied. Therefore, one can expect significantly positive or insignificant effect of PCs on the timing of EM. On the other hand, LQ implies PC firms' closure that most likely makes current management worse off. Thus, one can expect negative effect of PCs on the timing of LQ. As an extreme, PC firms might never be liquidated. Important to note that in the context of the second hypothesis the first hypothesis implies that the negative effect of PCs on the LQ initiation is stronger than nonnegative effect of PCs on EM initiation.

Another possibility would be that independent courts make both EM and LQ inferior outcomes for incumbent PC management: PC management does not only lose control over its firm, but is also likely to lose votes of its employees. In addition, bankruptcy of PC firm might be a bad signal to other voters. So, PC firms may tend to employ the out-of-court settlement under the threat of bankruptcy more often than non PC ones irrespective to whether EM or LQ is the most probable outcome of bankruptcy initiation.

4.2. Data

The data set covers bankruptcy cases in Russia and is employed in the first two sections. The last section about the total debt repayment uses different data set from the arbitration court of the Udmurt Republic.

Several data sets are used here: firm-level financial data come from the Russian Enterprize Registry Longitudinal Dataset (RERLD) of balance sheets for medium and large Russian industrial enterprizes; balance sheets information was also supplemented by the Prime-tass (2000–2004) data set. The Labyrinth was used to find the evidence of direct PCs.

The main data set employed in this research is data assembled for the paper by Lambert-Modiliansky, Sonin, and Zhuravskaya (2003).[7] This data set is unbalanced panel of bankrupt and non bankrupt firms 1995–2000; bankruptcy records are up to 1999. The authors use bankruptcy cases only for 1998 and 1999 period.

For firms from the main data set we have collected information on bankruptcy procedures from 1999 till February 2006. Data on the year of LQ come from the journal Vestnik of FSFO from No-

[7] I am grateful to Ekaterina Zhuravskaya for this data set.

vember 1999 till January of 2003; LQ and EM announcements from January 2003 till February 2006 are from Rossyiskaya gazeta; years of EM come also from AK&M[8] news data base from 1999 till February 2006.

Then, new data on bankruptcy is merged with the main data set and financial data is updated using the Russian Enterprize Registry Longitudinal Dataset (RERLD) that produce unbalanced panel 1995–2004. Because balance sheet data for one firm can be in different units in different years, *i.e.* hundreds, thousands, and millions, we adjust employment and industry deflated sales within a firm; importantly, adjusted values are not comparable between different firms.[9]

The Labyrinth data set contains lists of elected candidates on city, regional and federal levels and short biographies of politicians.[10] To identify the year when a firm becomes PC, we take maximum from the year when a person becomes elected and the year when he takes up a management position in a firm. Here, we assume that state of being PC persists over time and starts from the first episode. The presence of direct PCs of management is searched only for bankrupt firms. Further, the data set of bankrupt firms is merged with the data set on PCs of non bankrupt firms. PCs of non bankrupt firms are PCs of oligarchs that own these firms from the study of Guriev and Rachinsky (2005). One can doubt whether this approach is valid: bankrupt firms are PC through their managers whereas non bankrupt ones through their owners. However, Bonne and Rodionov (2001) argue that many firms owned by oligarchy are actually management-owned, *i.e.* the oligarch is a manager and an owner of a firm at the same time. Data on votes for winners and votes for runners-up in gubernatorial elections is kindly provided by Akhmed Akhmedov.

Fig. 1 (see Appendix A3) shows dynamics of outcomes of EM procedures in Russia: the number of EM initiated; the number of cases when EM firms were liquidated, restored to solvency or ended upon voluntary settlement. Solvency restorings account only for 0.7% in 2002 to 4.5% in 1998 out of all EM cases in a particular year. Most firms get LQ after EM. Table 1 (see Appendix A4) highlights composition of firms in our sample. In the second and the third block of Table 1, we present the number of bankruptcy cases initiated by PC and by EM (from our sample): 1998 and 2002 have the greatest number of bankruptcy cases initiated, 655 and 278 respectively. Table 2 compares means of variables employed in the estimation: non bankrupt firms are significantly more politically connected, have lower leverage ratio, and lower ratio of arrears to assets; LQ firms are significantly less politically connected, have greater leverage, and greater ratio of arrears to assets; whereas EM firms lie in the middle.

4.3. Cox's proportional hazards model

To estimate the effects of PCs on the timing of bankruptcy and separately on initiation of EM and LQ we apply the Cox's (1972) proportional hazards model. This duration model seems to be the most appropriate one since it does not require complicated parametric assumptions.

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[8] AK&M stands for the news agency "Analysis, Consultations and Marketing".

[9] For adjustment, the following automatic procedure is applied: sales can not rise more than 50 times from year to year; employment can not jump more than 10 times; sales to employment ratio can not increase 1000 times.

[10] The data set description could be found at http://www.panorama.ru/info/labir.html.

One might question the appropriateness on the duration model when static discrete models can perfectly tell whether PCs affect probabilities to belong to EM, LQ, or non bankruptcy groups. One possible answer is the following: the dynamic dimension of duration models allows to estimate effects of PCs when other characteristics of firms and institutional environment are changing, *e.g.* firms can accumulate larger arrears, an arbitration court president can change. Moreover, in practice, most firms have outstanding debts large enough to initiate bankruptcy, so that a bankruptcy petition can be filed any time. Therefore, natural question to ask is what affects the timing of the bankruptcy petition, in particular, what is the effect of PCs.

The failure event here is bankruptcy. Further, bankruptcy events could be sorted out into two different failures: EM and LQ depending on the first procedure initiated. This classification is important, since these two events have completely different consequences for firms: EM keeps them operating; LQ closes their operations. Below, we present the basics of duration analysis.

Hazard ratio is the probability per time unit that a firm that has survived till the beginning of the respective interval will fail in that interval, *i.e.* go bankrupt.

The Cox's proportional hazards model is a nonparametric duration model which assumes that for two different firms the ratio of hazards is constant over time (proportionality assumption):

$$h(t) = h_0(t)e^{X'\beta},$$

where $h(t)$ — hazard ratio at t; $h_0(t)$ — baseline hazard; X — matrix of time-varying covariates (explanatory variables); β — vector of coefficients to be estimated. Note that values of covariates determine how much the hazard ratio for a particular firm differs from the baseline hazard which is the same for all firms in a given moment in time.

This model is estimated by the Cox's partial likelihood without requiring the baseline hazards to be estimated. The following partial log-likelihood function is maximized in order to obtain β:

$$lnL = \sum_{j=1}^{D}[\sum_{k\in D_j} X_k\beta - d_j ln\{\sum_{i\in R_j} exp(X_i\beta)\}],$$

where X_i be the row vector of covariates for the time interval $(t_{0i}, t_i]$ for the ith observation. Here j indexes the ordered failure times $t_{(j)}$ ($j = 1,...,D$), D_j is the set of d_j observations that fail at $t_{(j)}$, d_j is the number of failures at $t_{(j)}$, and R_j is the set of observations k that are at risk at time $t_{(j)}$.

The Cox's method requires time-varying covariates to be strictly exogenous (Wooldridge, 2002). Here, exogeneity assumption seems to be plausible since there is no intuitive pattern of change in our explanatory variables with the time passed from the enactment of the 1998 law. We also test for the proportionality assumption for both the regression in general and for each independent variable in particular.

We assume that all cases are at risk going bankrupt (EM or LQ) from the year 1998, since the first law of 1992 was barely functioning and, overall, firms had very low chances to go bankrupt.

An estimate of the PCs' effect is not biased only if the exogeneity of PCs assumption holds. However, possible endogeneity of PCs is rather an important issue here, *i.e.* firms may choose to become PC or not and, thus, PCs dummy can correlate with the error term in the equation for the hazards ratio. In other words, we may end up with positive selection, *i.e.* "bad" firms become PC expecting protection from bankruptcy, or with negative selection, *i.e.* only "good" firms become PC naturally having lower chances of bankruptcy. In the former case we get significantly positive effect of PCs on hazards ratio (going bankrupt) not because PCs induce bankruptcy, but because "bad" firms become PC to get protection from bankruptcy and this protection fails; in the latter case the effect may be significantly negative, not because PCs strongly protect from bankruptcy, but because "good" firms rarely go bankrupt. One way to deal with this problem is to apply instrumental variables (IV) technique, *i.e.* one needs to find a parameter (an instrumental variable) that strongly correlates with PCs, but not with the error term in the hazards equation. In other words, the instrumental variable must affect the hazards ratio only through its effect on PCs.

Indeed, endogeneity is an issue in our specification: we can not include sales and employment directly into the hazards equation, since, as described in the previous section, these variables have different units of measure for different firms. It seems that omitted absolute values of sales and employment should matter for bankruptcy decisions and chances of being PC. Therefore, to obtain unbiased estimate of the effect of PCs we need an instrument.

Estimation strategy with an instrument consists of two stages:[11] estimation of a demand equation for PCs, where we use probit model; estimation of the Cox's specification employing estimates of PCs from the first stage.

Demand for PCs at time t is hypothesized to be a latent variable T_i^* that depends on covariates (characteristics of a firm) from the hazards equation X_i and the instrument Z_i. The equation for the first stage is:

$$T_i^* = \alpha_1 X_i + \alpha_2 Z_i + \upsilon_i ,$$

where υ_i is an independent random variable due to unobserved heterogeneity. So, we observe PC (indicator for being PC is set to one) only if there is positive demand for PC, or written formally:

$$T_i = 1, T_i^* > 0 .$$

The hazards ratio is hypothesized to depend on characteristic of a firm X_i and PCs which is T_i:

$$h_i(t) = h_0(t) e^{X_i' b + \theta T_i} .$$

[11] Strategy follows Yonatan and Beenstock (2005). The effect of vocational training on unemployment duration: estimation by natural experimentation, mimeo.

This equation uses the instrumented value for T_i. The second stage coefficients are consistent and asymptotically normally distributed (Murphy and Topel, 1985).

We also need a definition of a survivor function that is cumulative proportion of cases surviving up to the respective interval.

4.4. Estimation results

We begin with the analysis of the timing (duration from 1998) when firms go bankrupt. Fig. 2A presents Kaplan–Meier estimator of survivor functions of PC and not PC firms. At first glance, PC firms have greater chances not to go bankrupt even if we control for leverage (Fig. 2B). Cox's test does not reject difference in survivor functions for PC and not PC firms at 1%. However, PC firms can be better on average and therefore have greater chances to avoid insolvency. Therefore, one has to control for other firms' characteristics to confirm this tendency.

Table 3 provides statistics for pre-bankruptcy performance measures of EM and LQ firms. There is significantly more PC firms among those that end up in EM. LQ firms have greater leverage, worse current liquidity ratio, lower employment growth, and greater tax arrears.

To apply the IV technique described in the previous section one needs to find a valid instrument. As an instrument we suggest to employ political "monopoly" calculated as a ratio of votes for winners to votes for runners-up in regional gubernatorial elections. The higher the ratio, *i.e*. more popular is a winning governor, the greater is political "monopoly". That should imply greater stability of political groups in the regional parliament, so it becomes harder for an outsider to be elected to regional parliament or be appointed to the regional government and easier for an insider to stay. Tests for validity of political "monopoly" as an instrument are presented below.

The first stage equation for demand for PCs in year t is:

$$Instrumented\_PC_{it} = \alpha_1 X_{it} + \alpha_2 Political\_"monopoly"_{it} + \alpha_3 Industry\_dummies_{it} + \upsilon_{it}, \qquad (1)$$

where υ_{it} is an independent random variable due to unobserved heterogeneity; X_{it} is the same set of covariates as used at the second stage; $Political\_"monopoly"_{it}$ is categorized dummy: 1 if ratio of votes for winners to runners-up on last gubernatorial elections is greater than its median value (high "monopoly") and 0 if lower (low "monopoly").[12]

The second stage is the Cox's model. The proportionality assumption holds for Instrumented PCs at 10% and for the other estimates reported at 1% significance level. Three presented models have the

[12] Kemerovo oblast has the highest level of absolute political "monopoly" 131.75, whereas Novgorod oblast that follows next has political "monopoly" 70.46. To introduce greater variation in the instrument, we take categories rather than absolute values. However, the results also hold for absolute political "monopoly".

same specification (i — firms' id, t — time):

$$h_i(t) = h_0(t)exp(\alpha_1 Instrumented\_PC_{it} + \alpha_2 Leverage_{it} + \alpha_3 Current\_Liquidity_{it} + \\ +\alpha_4 Cash\_flows_{it} + \alpha_5 Labor\_prod.\_growth_{it} + \alpha_6 Employment\_growth_{it} + \alpha_7 Tax\_arrears_{it} \\ +\alpha_8 Wage\_arrears_{it} + \alpha_9 Trade\_arrears_{it} + \varepsilon_{it}), \quad (2)$$

where $h_i(t)$ — hazards ratio for the firm i to go bankrupt (EM, LQ) at time t, *i.e.* probability of going bankrupt (EM, LQ) at t if the firm has not gone bankrupt (EM, LQ) yet; $h_0(t)$ — baseline hazards ratio identical for complete sample of firms at time t, *i.e.* estimated coefficients tell in what direction and how much the hazards ratio for an individual firm differs from the baseline hazards ratio for all firms. Coefficients are reported in the form $exp(b_k)$ that is the deviation from the baseline hazards ratio for a one-unit change in X_k.

The list of covariates X_{it} is the following: $Instrumented\_PC_{it}$ — instrumented value for PCs from the first stage; $Leverage_{it}$ — log of debt to assets ratio; $Current\_Liquidity_{it}$ — log of liquid assets to short term liabilities; $Cash\_flows_{it}$ — negative log of costs per unit of sales; $Labor\_prod.\_growth_{it}$ — log growth in labor productivity; $Employment\_growth_{it}$ — log growth in employment; $Tax\_arrears_{it}$ — log tax arrears to total assets ratio; $Wage\_arrears_{it}$ — log wage arrears to total assets ratio; $Trade\_arrears_{it}$ — log trade arrears to total assets ratio; ε_{it} — error term.

Important to mention, if we include industry dummies into the Cox's model then the overall proportionality test and the proportionality test for Instrumented PCs worsens. Moreover, the model's predictive power does not gain from inclusion of industry dummies. Based on this observation we do not include industry dummies into our final specification.

We examine two possible challenges for instrumental validity of political "monopoly". First, we check if PC firms' characteristics are distributed differently when the political "monopoly" is high and when the political "monopoly" is low, *i.e.* patterns for being PC are different under different extents of political "monopoly". If they have different distributions, then we get self-selection according to political "monopoly" and joint regression will not have much sense. Table 4A examines firms' characteristics in regions with high and low political "monopoly". Significant at 1% difference is found only for leverage, cash flows, and trade arrears.

Second, after estimating the first stage using probit model for each year, we examine F-statistics for the instrument. Stock, Wright, and Yogo (2002) suggest necessary magnitude for (partial) F-statistics with one instrument to be 8.96. In Table 4B we report probit estimates for demand for PCs and F-statistics for political "monopoly". The political "monopoly" coefficient is everywhere significantly negative and its F-statistics varies from 3.18 in 1999 to 14.72 in 2004. So, in half of the years our instrument is not a weak instrument and the effect of political "monopoly" follows our intuitive prediction.

Results are consistent with our hypotheses that PCs have negative effect on bankruptcy initiation; and that PCs have negative effect on the timing of LQ but PCs are irrelevant for the tim-

ing of EM. Table 4C reports estimates of the two stage IV regression. Instrumented PCs have no effect on EM timing. However, significantly negative effect on bankruptcy and LQ timing: the presence of PCs decreases the baseline hazards by 91% at 1% significance level for bankruptcy, and by 98% at 1% significance level for LQ controlling for firm's insolvency characteristics.

In particular, the absence of the effect of PCs on EM timing means that this procedure is not costly for PC firms; that might happen in the environment of captured judiciary (Lambert-Mogiliansky, Sonin, and Zhuravskaya, 2003). Therefore, the main policy implication here is independent judiciary.

As a robustness check, we run multinomial logit regressions for each year and pooled set: they demonstrate significant and correct-sign results confirming different effects of PCs on initiation of EM and LQ. However, results are not systematic for different years.

5. QUEST FOR EFFICIENCY IMPROVEMENT

5.1. Hypotheses

In this section we present hypotheses about the performance of PC firms under EM. Legal goal of EM is solvency restoring, however, Fig. 1 shows that this is rarely the case. Below, we hypothesize the ways PC might contribute to this trend.

H_3: PCs have *positive* effect on firms' performance under EM.

EM can provide a politician with time and resources to turn the case in his favor: toning down social unrest, assets tunnelling, *etc*. Lambert-Mogiliansky *et al.* (2003) have shown that there is no improvement in efficiency measures following EM in general. Here, we specifically argue for particular effects of PC EM.

The key story shows that there could be a bailout in bankruptcy. Indirect arguments for bailouts could be revealed by performance measures, *e.g.* sales. We suggest that PC insolvent firms may have different pattern for bankruptcies compared with not PC ones. Stressing social-importance of insolvent firms politicians may have greater likelihood to force bailouts and preferential treatment for firms they manage.

Alternatively, PCs might not have an effect on performance measures. It might be rather hard to ask a limited regional budget for a bailout of an individual insolvent firm: it should depend on the extent of political interest in that firm; and the key story might be just an exception.

H_4: *No decrease* in employment following EM irrespective of the presence of direct PCs.

Lambert-Mogiliansky *et al.* (2003) present evidence that there is no change in employment following EM. In addition, this hypothesis is supported by the politicians-and-firms story not only in the case of PC firms: regional politicians can benefit from preserving employment in their regions. Moreover, bankruptcy law itself facilitates EM initiation in socially-important firms: the law au-

thorizes courts to impose EM irrespective of creditors' decisions if municipal, regional, or federal authorities appeal for EM initiation in order to protect local employment.

Another possibility would be that only the direct influence of PC firms makes EM avoid employment cuts. Then, one should obtain greater absolute positive effect of PC EM on employment compared with negative effect of EM.

5.2. Dynamic panel with fixed effects

To estimate the effects of PC EM and EM on performance measures we apply fixed effects dynamic panel with the Arellano–Bond estimation technique.

$$Y_{it} = Y_{it-1}a_1 + ... + Y_{it-p}a_p + X_{it}b + \mu_i + \varepsilon_{it},$$

$i = 1, ..., N$, $t = 1, ..., T_i$; a_1, ..., a_p, b — parameters to be estimated; X_{it} — $1 \times k$ vector of strictly exogenous covariates; μ_i — individual component; ε_{it} — iid over the whole sample.

Assumption: μ_i and ε_{it} are independent for each i over all t.

Assumption: No autocorrelation in ε_{it}.

Therefore, it is necessary to verify the hypothesis that there is no autocorrelation of a certain order in residuals.

Arellano and Bond (1991) derived a GMM estimator using lagged levels of the dependent variable and differences of the strictly exogenous variables to estimate dynamic model. Dynamic nature of the specification does not allow to apply regular fixed effects regression since endogeneity brings inconsistency of estimates.

This specification is employed for the following performance measures: sales, employment, and labor productivity. Importantly, different firms' balance sheets report sales and employment in different units, *e.g.* hundreds, thousands, and millions. So, in order to pull measurement units (different for every firm) into fixed effects we take logs of these variables since taking logs makes measurement units be additive. Different units of measure are not relevant in the previous section since we use only ratios there and measurement units cancel out.

To perform robustness checks we apply: the regular fixed effects regression with clustering by firms' id and the MNR[13] method. The MNR method was first employed in studying effects of privatization by Megginson, Nash, and Randenborgh (1994). We take their idea and alter the test for some of our variables that have different units of measure for different firms. The MNR procedure is the following: (i) take means for pre- and post-performance measures (year when an event happens is excluded, at least two pre-, post-observations must be available); (ii) apply Wilcoxon signed-rank test for significant change in absolute values of dimensionless variables or, alterna-

[13] I am grateful to Sergei Guriev for his advice to try this method.

tively, t-test for growth rates adjusted for overall economic growth to the equality of its mean to unity, to test for the direction of the change.

5.3. Estimation results

In this subsection we turn to the empirical study of the effects of PCs on firms' performance under EM. We specify the dynamic model with fixed effects. This specification assumes that sales, employment and labor productivity are AR processes. The model is the following:

$$Y_{it} = \alpha_1 Y_{it-1} + \alpha_2 Y_{it-2} + \alpha_3 PC_{it} + \alpha_4 EM_{it} + \alpha_5 LQ_{it} + \alpha_6 PC\_EM_{it} + \alpha_7 PC\_LQ_{it} + \\ + \alpha_8 LQ\_after\_EM_{it} + \alpha_9 Year\_dummies_t + \mu_i + \varepsilon_{it}, \quad (3)$$

where Y_{it} — dependent variable: log sales, log labor productivity, log employment; Y_{it-1} Y_{it-2} — its lagged values (one period and two periods back); PC_{it} — dummy for being PC: 0 — when a firm is not PC, 1 — from the year a firm becomes PC, *i.e.* a CEO or a member of an executive board becomes a member of parliament or a top executive at the federal, regional, or municipal level, and on; EM_{it} — dummy for being EM: 0 — if a firm is not under EM, 1 — if a firm is under EM, *i.e.* EM_{it} is 1 from the year when EM is initiated till the year when EM ends;[14] LQ_{it} — dummy for being LQ: 0 — if a firm is not under LQ, 1 — from the year when LQ was initiated and on;[15] $PC\_EM_{it} = PC_{it} \cdot EM_{it}$ — dummy for PC EM: 1 — if EM firm is PC, 0 — otherwise; $PC\_LQ_{it} = PC_{it} \cdot LQ_{it}$ — dummy for PC LQ: 1 — if LQ firm is PC, 0 — otherwise (PC firms are likely to be large ones and, therefore, longer stay under observation of the RERLD, so that we may observe the complete fall in their performance under LQ); $LQ\_after\_EM_{it}$ — dummy for being LQ after EM (EM firms might be large and, therefore, stay under observation longer so we may capture the complete fall).

In this specification, coefficient by a dummy variable should be interpreted as an approximation of a percentage change in an outcome variable that follows dummy change.

The choice of the number of lags in specifications for the dynamic panels was made based on Arellano–Bond test that average autocovariance in residuals of a certain order is 0. All regressions are AR(2) processes.

The first column of Table 5 reports estimation results for log sales. The coefficient of PC EM is insignificant. In addition, EM dummy is also insignificant. The first column of Table 6 reports results of estimation for log labor productivity. In general, estimates exhibit the same pattern as in log of

[14] While composing the data set for EM firms we made the assumption that if firms do not go into LQ (that provides us with the explicit year when EM ends) then EM is assumed to last for two years. Two years is the most common duration of EM, but in the case of socially-important firms the duration can be up to 10 years (law 1998) or 3 years (law 2002).

[15] There is no obligatory official publications upon the completion of LQ. Here we assumed that firms get closed if LQ is initiated. However, in practice, firms can escape closure by singing a voluntary settlement with creditors.

sales equation. Again, dummies for PC EM are irrelevant for labor productivity. Therefore, the third hypothesis about effects of PCs on bankruptcy outcomes is rejected, *i.e*. PC EM does not matter for EM performance of firms, whereas we hypothesized positive effect.

Interestingly, we obtain negative robust sign for PCs alone in case of log labor productivity: 15% average drop in labor productivity compared with non PC firms. Important to note, that EM itself does not bring any efficiency improvements in terms of log sales and log labor productivity. This result strongly contradicts the goal of EM stated in the law: restructuring and solvency restoring.

However, the bailout in the key story leads to the increase in efficiency: growth in labor productivity and sales. According to the estimation results, direct PCs, in general, are irrelevant for the efficiency-enhancing EM. Therefore, in our case the bailout might be just a consequence of being a socially-important (a company-town) firm, rather than PC EM.

Finally, results for log employment are reported in the first column of Table 7. According to the forth hypothesis we expect to find irrelevance of direct PCs for employment cuts and nonnegative effect of EM. Indeed, PC EM is insignificant.

Results in Table 7 can be attributed to the fact that EM might be imposed under the specific condition of no employment cuts, whereas efficiency might require more aggressive employment cuts compared with not EM firms. Therefore, the forth hypothesis is not rejected: EM has nonnegative effect and direct PCs are irrelevant for employment. This estimation goes in line with the politicians-and-firms scenario: EM firms preserve employment thereby impairing labor productivity. PC EM firms are not different from their non PC counterparts.

Officials who commented the key anecdote stressed as a success the ability of the firm to prevent drop in employment. Interestingly, it is also pointed out that the foremost EM's goal was to prevent employment cuts.

Overall, this section results imply that EM procedure should be revised significantly. For instance, one important concern is that large EM firms are not able to get through restructuring fast, that EM procedure is too short for a significant change to be made. Therefore, possible policy recommendation, that is complimentary to court independence and efficient monitoring of bankruptcy administrators, is increasing the EM term for large firms with high sunk costs.

5.4. Robustness checks

Robustness checks were performed for the model's specifications, different sub-samples, winsorized at 1% and 99% financial ratios,[16] and different definitions of explanatory variables. All results are robust to winsorized at 1% and 99% financial ratios.

[16] To obtain winsorized sample at 1% and 99% we shift all the observations beyond 1% and 99% to the 1- and 99-percentile respectively.

The fixed effects panel estimation with clustering on firms' id as explanatory variables included: PC dummy, EM dummy, LQ dummy, PC EM dummy (or alternatively PC before EM and PC after EM), PC LQ dummy, LQ EM dummy, lagged log sales (or alternatively log employment), lagged log of leverage, lagged log of current liquidity, lagged log of cash flows, lagged log of tax arrears to total assets ratio, lagged log of trade arrears to total assets ratio, lagged log of wage arrears to total assets ratio, year dummies. In other words, we include all available controls as for the Cox's estimation and log sales (log employment).

All results that are related to our hypotheses testing are robust: PC EM are irrelevant for the EM performance; EM has nonnegative effect on employment. Results are also robust if we consider the sub-sample of only non bankrupt and externally managed firms. This results are reported in Tables 5–7.

Insignificant result for PC EM might be driven by the fact that PCs that emerged before initiation of EM are more continuation-biased: have positive effect; and PCs that emerged after initiation of EM are more expropriation-biased: have negative effect. To capture this possibility we include dummies for PC before EM and PC after EM. Tables 5–7 report estimation results: no significant effect is found.

6. EXTERNAL MANAGEMENT IN THE UDMURT REPUBLIC: DEBT REPAYMENT

6.1. Hypotheses

This section presents final empirical results. From the first two sections we know that there is evidence for the capture of judiciary by politicians, since PCs postpone LQ initiation and do not have an effect on the timing of EM initiation. Further, there is no efficiency improvement following EM. Therefore, the last question to ask is to what extent EM influence the total debt repayment in bankruptcy. This section discusses this issue.

Absolute priority rule as it stated in the Russian bankruptcy law implies very low main debt repayment (debt in place before bankruptcy) to unsecured creditors.[17] At the same time, the extent and the nature of administrative expenses that emerged in bankruptcy and paid-out-first are very hard to challenge in court. Therefore, unsecured creditors might have an incentive to opt for external management (EM) to become the administrative expenses claimants in the course of the procedure. Despite that increase in administrative expenses leads to low ultimate repayment of the main debt, for a particular unsecured creditor administrative expenses repayments might outweigh losses in the probabilistic repayment of the main debt. In other words, unsecured creditors may have an incentive to vote for EM at the cost of a decrease in repayment of the main debt.

Further, the administrative-expenses scenario presented above can be also altered to describe preferential treatment in liquidation (LQ) of one creditor at the expense of the others. However,

[17] Under the 1998 bankruptcy law unsecured creditors get repaid the last, whereas under 2002 law they share turn with state claims (commonly the largest claimant).

EM deserves special discussion since it offers greater threats of abuse: longer time horizon, the firm's operation under external manager's control, stay on assets, *etc.* That suggests the following hypotheses.

H_5: Concentrated debt (low number of creditors) has *positive* effect on initiation of EM.

Low number of creditors implies less checks from rivals. Most likely, absence of the party who is interested in monitoring law compliance makes it easier to inflate administrative costs or strip assets in EM. Important to note that EM is very time-consuming and can be prolonged. There is a number of cases when unsecured creditors challenged the nature of administrative expenses in EM. Despite that the most of the time these claims fail they might provide some limitations for manipulation.

Alternatively, positive effect of low debt concentration on EM initiation might imply less conflict about the future of the firm. Absence of the conflict may provide greater chances for making the most efficient choice, in terms of greater debt repayment, and EM may represent this choice. In order, to test whether EM indeed provides the highest debt repayment the next hypothesis is suggested.

H_6: EM leads to *low* overall debt repayment in bankruptcy.

High administrative costs might lead to low repayment of the main debt if the firm stays unprofitable. However, low repayment might also manifest not the evil of EM but just inefficiency of the present procedure: EM term is too short for the firm to be restructured. Therefore, under EM the firm operates in the same way that led it to bankruptcy: keeps accumulating debts and covers operational costs out-of-turn leaving less resources for restructuring and satisfaction of creditors' claims. In other words, negative effect of EM manifests overall inefficiency of the procedure in protection of creditor's claims not specifically for the story described above.

In order to test the administrative-expenses scenario we assume that unsecured creditors vote efficiently, *i.e.* vote for the procedure under which they have higher probability of the total debt repayment. The first creditors' meeting vote outcome should determine the procedure (EM or LQ) that is to be initiated, however, bankruptcy law states that court, under certain circumstances, may not follow the decision of the first creditors' meeting and initiate the procedure it considers efficient. We have data on how five largest unsecured creditors voted, what procedure was initiated, and whether the main debt was repayed to a particular unsecured creditor. The main debt might constitute only a part of the total debt to this particular creditor, whereas the other part might also include administrative expenses claims.

Further, we assume a tradeoff between the repayment of the administrative expenses part and the repayment of the main debt to an unsecured creditor. Therefore, depending on the structure of the creditor's total debt we have different effects of the creditor's desired procedure initiation (that the creditor voted for) on the repayment of his main debt. On one hand, if his main debt is the only debt that constitutes his total debt then only positive effect of creditor's desired procedure initiation on

repayment of his main debt is expected. On the other hand, if his total debt also includes administrative expenses claims than this effect might be negative, so that the creditor sacrifices repayment of his main debt for out-of-turn claims (administrative expenses).

The next step is to discuss the administrative expenses issue. Collusion with the judge (or the bankruptcy administrator who can persuade the judge in the efficiency of a particular procedure) might be needed in order to secure some share of administrative expenses, since administrative expenses is the flow in bankruptcy. In collusion, judge can initiate the procedure that benefits the creditor, if needed, through the court's discretion. Therefore, in the case of the collusion and the presence of the tradeoff introduced above, the creditor votes for the procedure that ultimately decreases his repayment of the main debt but guarantees a portion in administrative expenses. As a consequence, the procedure is initiated to inflate administrative expenses that adversely affects repayments to the other creditors, *i.e.* weakens overall protection of creditors rights. In other words, while voting the creditor knows composition of his total debt which is, in case of collusion, his administrative expenses debt plus his main debt. As a result, if the administrative-expenses scenario holds than the creditor's desired procedure which was initiated through the court's discretion (overruling the first creditor's meeting decision) should have a negative effect on the repayment of his main debt.

H_7: The creditor's desired procedure initiated by the court's discretion has *negative* effect on the repayment of his main debt.

In order to test these hypotheses we apply logit model.

6.2. Data

The data for this part of the study was collected in the arbitration court of the Udmurt Republic. Financial data comes from the bankruptcy administrator's reports. It is important to note, that data in balance sheets and data reported by administrators are not always the same. In order to stick to a uniform pattern data was collected exclusively from administrator's reports. Financial data was collected in the end of the supervision stage for every firm. We also collect the data on the share of debt of the first eleven largest creditors (five secured, five unsecured, and the state), subjective assessments on the status of firms (*e.g.* unique producers, company-towns, *etc*.), general voting and repayment information.

Figs 4A and 4B present the industry composition of firms under LQ and EM in our sample. Agriculture and construction industries have the greatest number of firms both under EM and under LQ. However, housing services have the greatest number of firms under EM alone. Figs 5A and 5B show petitioners composition. Interesting to note that FSFO is the leading petitioner both for firms under EM and for firms under LQ, whereas self-initiated bankruptcy takes the second place under both procedures. Further, Table 8 contrasts the characteristics of EM and LQ firms. There are significantly more company-towns among EM firms. Firms under LQ have more creditor-initiated bankruptcy procedures. LQ firms also have larger arrears and debt compared to EM firms. What is more, average number of creditors under EM is 4 whereas average number of creditors under LQ is 24.

6.3. Estimation results

This subsection presents the results of the logit estimation. As robustness checks, we run the same specifications using three different samples: (1) full sample of firms; (2) winsorized at 5- and 95-percentile financial ratios and Herfindahl–Hirschman Index, when all the observations beyond 5- and 95-percentile are placed on the 5- and 95-points accordingly; (3) sample where all observations with financial ratios and Herfindahl–Hirschman Index beyond 5- and 95-percentile are dropped. Financial data employed in these regressions is from the end of the supervision period.

Firstly, in order to test the first hypothesis about the effect of debt concentration on initiation of EM we apply the following logit specification:

$$\begin{aligned} Pr\{EM = j\} = F\{&\alpha_1 + \alpha_2 Herfindahl - Hirschman\_Index_i + \alpha_3 Creditor - initiated_i + \\ &+\alpha_4 Self - initiated_i + \alpha_5 Municipal\_share_i + \alpha_6 Vote\_outcome_i + \alpha_7 Leverage_i + \\ &+\alpha_8 Current\_liquidity_i + \alpha_9 Cash\_flows_i + \alpha_{10} Tax\_arrears_i + \alpha_{11} Creditor\_arrears_i + \\ &+\alpha_{12} Employment_i + \alpha_{13} Absence\_of\_FSFO_i + + \beta Industry\_dummies_i + \varepsilon_i\}, \end{aligned} \quad (4)$$

where F is a logistic function; i — firm's id; and $j = \{0,1\}$: 0 if LQ is initiated right after supervision, 1 if EM is initiated.

The list of covariates is the following: $Herfindahl - Hirschman\_Index_i$ — debt concentration: sum of squared shares of ten largest creditors and the state in the total debt (the higher it is the more concentrated the debt is); $Creditor - initiated_i$ — dummy for the petitioner:[18] 1 — if a creditor was a petitioner, 0 — otherwise; $Self - initiated_i$ — dummy for the petitioner: 1 — if a debtor was a petitioner, 0 — otherwise; $Municipal\_ownership_i$ — dummy for municipal share: 0 — no municipal ownership; 1 — non-zero municipal ownership; $Voting\_outcome_i$ — outcome of the first creditor's meeting voting: sum of votes weighted by the share of debt for the first five largest unsecured, secured creditors, and the state (where negative range is pro-LQ and positive range is pro-EM); $Leverage_{it}$ — log of debt to assets ratio; $Current\_Liquidity_{it}$ — log of liquid assets to short term liabilities; $Cash\_flows_{it}$ — negative log of costs per unit of sales; $Tax\_arrears_i$, $Credit\_arrears_i$ — the share of arrears in sales; $Absence\_of\_FSFO_i$ — dummy that indicates whether FSFO is operating: 0 — before the 2004 when FSFO was liquidated, 1 — since 2004 (including) when FRS system was established.

Marginal effects are presented in Table 9. Indeed, as it was hypothesized concentration of debt increases the probability of EM initiation by 13% at 1% significance level. Effects of the rest significant controls are intuitive. Creditor-initiated procedures are more LQ-biased, *i.e.* decrease probability of EM by 12% comparing to the cases when bankruptcy was initiated not by creditors. Voting outcome indeed goes in line with the procedure initiated, but appears to be not decisive. Tax and

[18] Here the comparison group is bankruptcy initiated by FSFO or Tax service.

credit arrears have negative effect. Therefore, the first hypothesis about debt concentration is not rejected at 1% significance level. However, that might not exclusively manifest the administrative-expenses scenario.

For testing H_6 that EM reduces total debt repayment, we apply the logit model. Despite the fact that the total debt repayment is a continuous variable, it has just a few observations between 0 and 1 which is no debt repayment and full debt repayment. So, it seems reasonable to make it discrete choice variable: low and high repayment:

$$\begin{aligned} &Pr\{Total\_debt\_repayment = j\} = F\{\alpha_1 + \alpha_2 EM + \alpha_3 Herfindahl - Hirschman\_Index_i + \\ &+\alpha_4 Leverage_i + \alpha_5 Current\_liquidity_i + \alpha_6 Cash\_flows_i + \alpha_7 Employment_i + \\ &+\alpha_8 Court's\_discretion + \alpha_9 Absence\_of\_FSFO_i + \varepsilon_i\}, \end{aligned} \quad (5)$$

where F is a logistic function; i — firm's id; and $j = \{0,1\}$: 0 in case of low debt repayment and 1 in case of high debt repayment, *i.e.* ratio of total repayment to total debt is lower or higher than its median.

New variable here is court's discretion. We do not have data on the actual court's discretion, *i.e.* whether the decision of the first creditors' meeting was actually overruled. However, we can proxy it. We have data on shares in the total debt and vote of the five largest unsecured creditors, five largest secured creditors, and the state. Therefore, we are able to calculate the voting outcome for these eleven largest creditors and find out if the initiated procedure is in line with the voting outcome or not, if not then we label this state as discretion. Note that we do not include industry controls in the final specification, since they bring no new information.

Table 10 presents the results of estimation. Indeed, EM has the robust and significant at 1% effect on the total debt repayment— increase in the likelihood of low debt repayment by 21%.

Finally, to test the hypotheses H_7 we apply the following logit specification:

$$\begin{aligned} &Pr\{Main\_debt\_repayment = j\} = F\{\alpha_1 + \alpha_2 EM + \alpha_3 Herfindahl - Hirschman\_Index_i + \\ &+\alpha_4 Debt_i + \alpha_5 Leverage_i + \alpha_6 Current\_liquidity_i + \alpha_7 Cash\_flows_i + \alpha_8 Employment_i + \\ &+\alpha_8 Desired\_procedure_i + \alpha_9 Court's\_discretion\_in\_favor\_of\_creditor_i + \\ &+\alpha_{10} Absence\_of\_FSFO_i + \beta Industry\_dummies_i + \varepsilon_i\}, \end{aligned} \quad (6)$$

where F is a logistic function; i — firm's id; and $j = \{0,1\}$: 0 in the case of no or partial main debt repayment to the unsecured creditor and 1 in case of full main debt repayment. There are three new covariates: $Debt_i$, $Desired\_procedure_i$, and $Court's\_discretion\_in\_favor\_of\_creditor_i$. $Debt_i$ is the share of unsecured creditor in the total unsecured debt that emerged before bankruptcy (the main debt), it is also the weight given to the vote of the creditor on the first creditor's meeting. The higher is the $Debt_i$ the harder it is for the creditor to be fully repaid, but at the same time the creditor's opinion is more influential. $Desired\_procedure_i$ is a dummy: 0 if not the procedure for which the creditor voted for was initiated, 1 if the procedure for which the creditor voted for was initiated.

$Court's\_discretion\_in\_favor\_of\_creditor_i$ is a dummy: 0 if the desired procedure initiated not under the court's discretion, 1 if the desired procedure is initiated under the court's discretion. The rest of explanatory variables have the same definitions as before and are included as controls for the financial health (financial ratios), the size of the firm (employment), the bankruptcy institutional environment (absence of FSFO), the firm's (industry) and the procedure's (EM) specific characteristics.

Table 11 presents the results. Each firm has several unsecured creditors, therefore, we can not treat creditors of the same firm as independent observations, so we perform clustering on firms' id. The only two significant coefficients are *Cash_flow*, incremental increase in which brings 5% increase in the probability of the main debt being fully repaid, and *Desired_procedure*, where switch from the non-desired to the desired procedure brings a 6% increase in the probability of the main debt being repaid. $Court's\_discretion\_in\_favor\_of\_creditor_i$ is insignificant. That means that the seventh hypothesis about the administrative-expenses scenario is rejected since it suggests significantly negative effect of court's discretion. However, we reject this hypothesis under the assumption of the tradeoff between the repayment of administrative expenses and the repayment of the main debt to a particular creditor; therefore, if there is no tradeoff than inflation of administrative expenses by the creditor might not affect his main debt repayment.

To summarize, the arbitration court data provides evidence that EM is initiated in firms with low concentration of debt, and EM indeed negatively affects the probability of high total debt repayment. Further, there is no evidence that court's discretion brings inflation of administrative expenses in favor of a particular unsecured creditor under the assumption of the tradeoff. In light of the low total debt repayment brought about by EM, it seems that bankruptcy procedure in Russia should be liquidation-biased in order to enhance protection of creditors rights.

7. CONCLUSION

Our main findings highlight the three important aspects of the external management procedure: (1) its initiation; (2) performance; and (3) debt repayment. Firstly, political connections indeed matter for the timing of liquidation but they are irrelevant for the timing of external management. The probability of external management initiation increases with debt concentration. Secondly, the results do not reject the hypothesis that externally managed firms protect local employment, thereby impairing labor productivity. This result, it should be noted, is obtained irrespective of whether or not the externally managed firm has direct political connections or not. This evidence is in line with the politicians-and-firms story by Sleifer and Vishny (1994). And thirdly, external management has negative impact on the total debt repayment, however, we do not find evidence for the inflation of the administrative expenses in the interests of a particular unsecured creditor.

Thus, the estimation results provide the following evidence. Politically connected firms avoid liquidation and are indifferent to external management. This may be a sign of captured courts (see Lambert-Mogiliansky, Sonin and Zhuravskaya, 2003). Externally managed firms have higher debt con-

centration that implies absence of control from rival creditors and greater threats of manipulation. Furthermore, politically connected firms neither restructure nor get bailed out under external management. Moreover, external management prevents employment cuts, irrespective of the presence of direct political connections. Therefore, in general, politically connected firms utilize the bankruptcy procedure to forward various aims except obtaining a bailout, *e.g.* debt cancelling, employment protection or ownership change. Moreover, nonparametric robustness checks do not reject the hypothesis that politically connected externally managed firms even experience decreases in sales and labor productivity. As a result, externally managed firms have lower total debt repayment that weakens investor protection.

Some limitations of our empirical investigation should be mentioned. We implicity assume that political connections are persistent over time for each firm. Thus, a firm defined to be politically connected from the year in which the first top manager is elected and on. Furthermore, the quality of balance sheet data frequently rises concerns in empirical studies: some taxable value often seems underreported. In our case, however, we argue that the sales figures that we are using are not under the threat of underreporting since they are reported net of all taxes. However, firms may want to conceal true figures from their competitors. Next, there is a different bankruptcy regime (set of peculiarities at each bankruptcy stage) for large firms that have high employment. We do take account of different regimes[19] as we employ fixed effects panel estimation. Unfortunately, we are not able to trace firm movements in between the categories, *e.g.* from the not socially-important category to the socially-important one.

Overall, obtained empirical results urge for a drastic change in the current bankruptcy legislation. External management procedure must be significantly altered: absence of court's discretion, increase in term for large firms, independent judiciary. It seems that the last change, the most crucial one, is very hard to implement at once. Therefore, we join Berglof, Bolton, Guriev, and Zhuravskaya (2006) in their argument for liquidation-biased bankruptcy for Russia.

[19] Natural monopolies and strategic firms also have their own regimes.

APPENDICES

A1. Institutional background: bankruptcy monitoring bodies

The Federal Bankruptcy Service for Financial Rehabilitation and Bankruptcy (FSFO), liquidated under the Administrative reform in the spring of 2004, was the first body responsible for licensing and monitoring bankruptcy administrators. It also was authorized to present evidence of abuse in court. However, suits against administrators were not a common practice. For instance, dismissal of the corrupt external manager happened only once in the Udmurt Republic. Nevertheless, FSFO was recognized to play a disciplinary role for administrators in this region: most of the creditors' meetings were held with FSFO's participation (often FSFO official prevented overspending of debtor's assets by administrators), administrators were to present reports to FSFO.

However, FSFO practices were not uniform over the country. The FSFO's classification of licences for bankruptcy administrators provoked great discontent. Licences for administrators had three classes. The third-class license was feasible mainly for FSFO members and entitled its owner to manage large, socially-important firms. For instance, there was the conflict about the external management position in Sidanko (oil company) when FSFO insisted that Sidanko is a socially-important firm and must be managed by administrator with the 3rd class license whereas the current administrator had only the 2nd class license. However, there was no administrator with the 3rd class license in Russia for the moment, so FSFO claimed that the second best is to appoint a FSFO's member for that position (Segodnia, 1999). Later, Higher court abolished this classification (Rossyiskaya gazeta, 2001). There was other evidence of corruption of FSFO when its members had the privilege to manage socially-important firms in interests of particular creditors: Novosibirsky Electrodnyi plant, Orsko-Halilivsky metallurgic plant, Stupinsky metallurgic plant, *etc*. Corruption was one of the main reasons for the liquidation of FSFO.

The 2002 law created a new body for monitoring bankruptcy administrators that is a recognized self-regulated organization of bankruptcy administrators. The Federal Registration Service (FRS) is authorized to monitor self-regulated organizations of bankruptcy administrators nowadays. While the self-regulated organization itself is entitled to monitor its members (§ 22 of the 2002 bankruptcy law). There was not yet any action of FRS against administrators in Udmurtia. Anecdotal evidence argues that the self-regulated body does not do much better in monitoring administrators and just worsened incentives for them. It is important to note that the self-regulated organization must present the list consisting of three candidates (so-called "triple", § 45 the 2002 bankruptcy law) on the arbitration court request. Then the court appoints a bankruptcy administrator out of the candidates from the list.[20] One can be curious about the ways for administrators getting into a "triple".

[20] The top candidate always preferred over the lower ranked one.

It is important to note that the liability of administrators for the possible harm to creditors or debtors must be insured under the 2002 bankruptcy law. However, there are very few cases of insurance payments. Despite that one of the primary goals for liquidation of FSFO was reduction in bureaucratic burden and corruption, monitoring of administrators in essence by themselves increased the risk of manipulation.

A2. External management in the Udmurt Republic: success stories

Case study 1: MUP Izhevsky hlebozavod 3 (Bread-making plant)

FSFO filed for bankruptcy in the May of 2001 with three-year tax arrears 600 thousands RUR (20 thousands USD). The firm had 25 subsidiaries and 500 employees. There were four criminal cases against subsidiaries for tax nonpayments, but since it is a municipal firm the criminal cases were closed and subsidiaries liquidated (debts were not paid back). FSFO opted for external management of MUP. First three months of external management were devoted to evaluation of the financial performance. In the forth month the firm was sold to the group of investors conditional on paying out the debts, and restructuring (buying new equipment). The book value of the firm was 2.3 mln. RUR (77 thousands USD) without subsidiaries, but the firm was sold for 700 thousands RUR (23 thousands USD) with subsidiaries. The latest reports show that the firm was reorganized into the joint-stock company with limited liability OOO Izhevsky hlebozavid 3, subsidiaries stayed within the firm, tax arrears are paid back in full, no change in equipment.

Case study 2: OOO Votkinsky minispirtzavid (Alcohol)

FSFO filed for bankruptcy in the December of 2002 with tax arrears 500 thousands RUR (17 thousands USD). The firm employed 300 people in the town with 50 thousands in population. The difficulties started after 1998 crises, when competition with other republican alcohol firms became stronger. The municipality owned 37% of shares and management positions were mainly occupied by government affiliates. External management was initiated. The credit line for restructuring was opened by Impexbank for 10 years. New equipment was purchased; management team was replaced. The voluntary agreement was signed after 8 month of external management. The latest report (2006) shows that all the debts and Impexbank's credit are repaid in full. The firm is reorganized into the joint-stock company with limited liability OOO Vizavi.

Case study 3: MUP Rechnoi port Sarapul (Transportation: river port)

FSFO filed for bankruptcy in the November of 2002 with tax and wage arrears. The firm received subsidies from regional budget for restructuring: maintenance of the port's building, new equipment, rising the level of staff's skills, new business partners. Today, most of Sarapul residents use its services. In two years, solvency is restored, tax and wage arrears are cancelled. Operations are still not profitable, but taxes and wages are timely paid.

A3. Figures

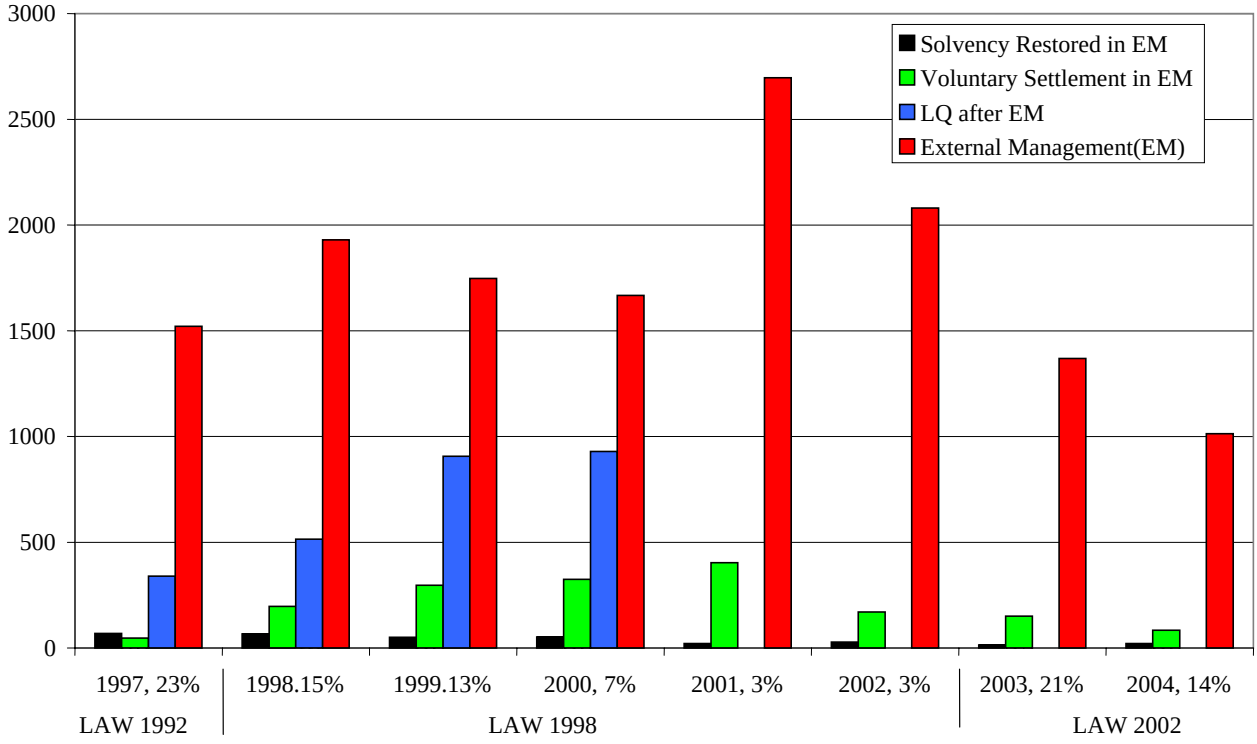

Fig. 1. Number of external management procedures and their outcomes

Note: Horizontal axis shows years and time periods for a particular bankruptcy law. Percentage of externally managed firms out of all bankrupt firms is by the year it corresponds to. Vertical axis shows the absolute number of procedures in given year in particular category: external management (EM), firms liquidated (LQ) after external management (EM), firms signed voluntary settlement in EM, firms restored to solvency in EM. There is no official statistics available for a number of firms that were liquidated after external management starting from 2001.

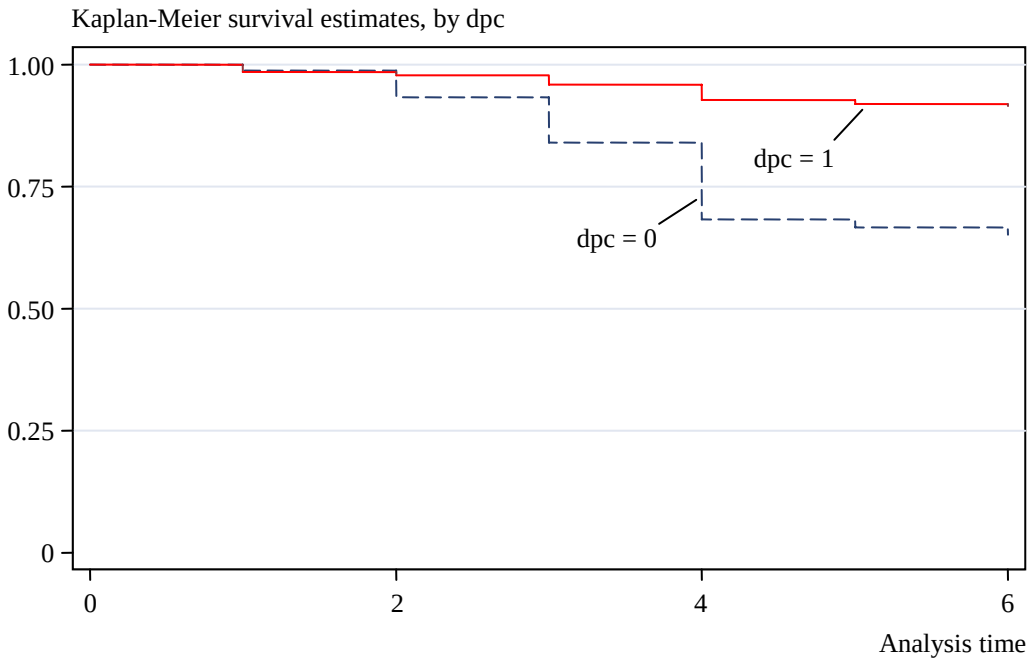

Fig. 2A. Survivor function estimator for bankruptcy of politically connected and not politically connected firms

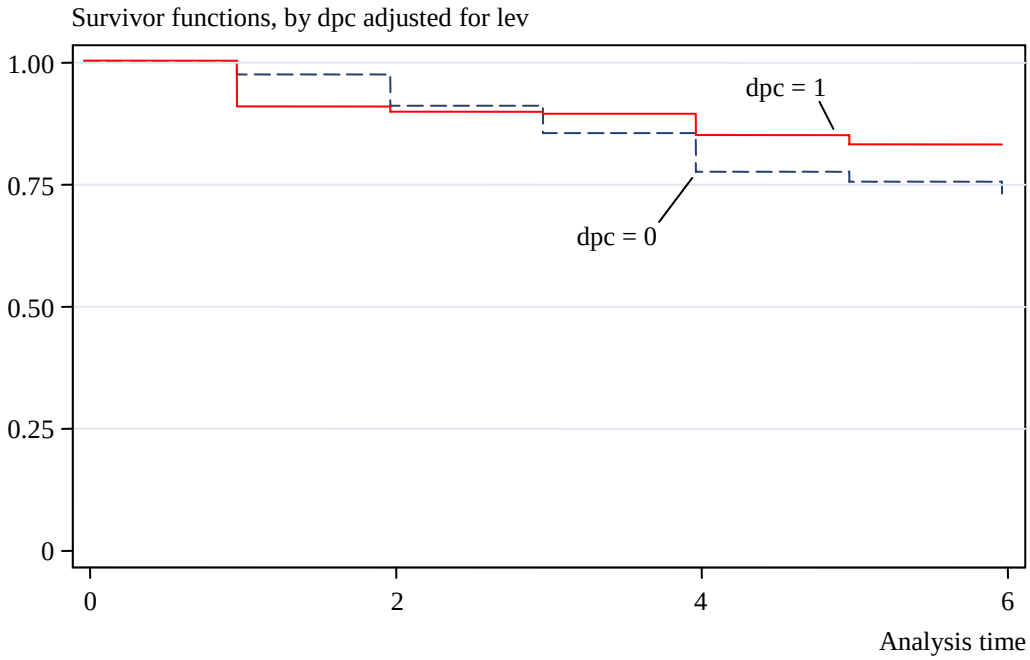

Fig. 2B. Survivor function estimator for bankruptcy of politically connected and not politically connected firms adjusted for leverage (lev)

Note: dpc is a dummy for being politically connected: 1 if a firm is politically connected, 0 otherwise.

VAR	Observations	m_b > m_a	m_b < m_a	m_b != m_a
Sales	321			NO CHANGE
Employment	321	DECREASE		NO CHANGE
Labor productivity	309			NO CHANGE
Leverage	126		INCREASE	NO CHANGE

Fig. 3A. MNR analysis results for external management

VAR	Observations	m_b > m_a	m_b < m_a	m_b != m_a
Sales	29	DECREASE		NO CHANGE
Employment	29	DECREASE		NO CHANGE
Labor productivity	28	DECREASE		NO CHANGE
Leverage	22		INCREASE	NO CHANGE

Fig. 3B. MNR analysis results for external management, when a firm was politically connected before the procedure

VAR	Observations	m_b > m_a	m_b < m_a	m_b != m_a
Sales	254			NO CHANGE
Employment	254	DECREASE		NO CHANGE
Labor productivity	250			NO CHANGE
Leverage	22		INCREASE	NO CHANGE

Fig. 3C. MNR analysis results for external management, when a firm was not politically connected before the procedure

Note: m_b — mean before external management was imposed; m_a — mean after initiation of external management; cell is highlighted if hypothesis is not rejected at 5% significance level.

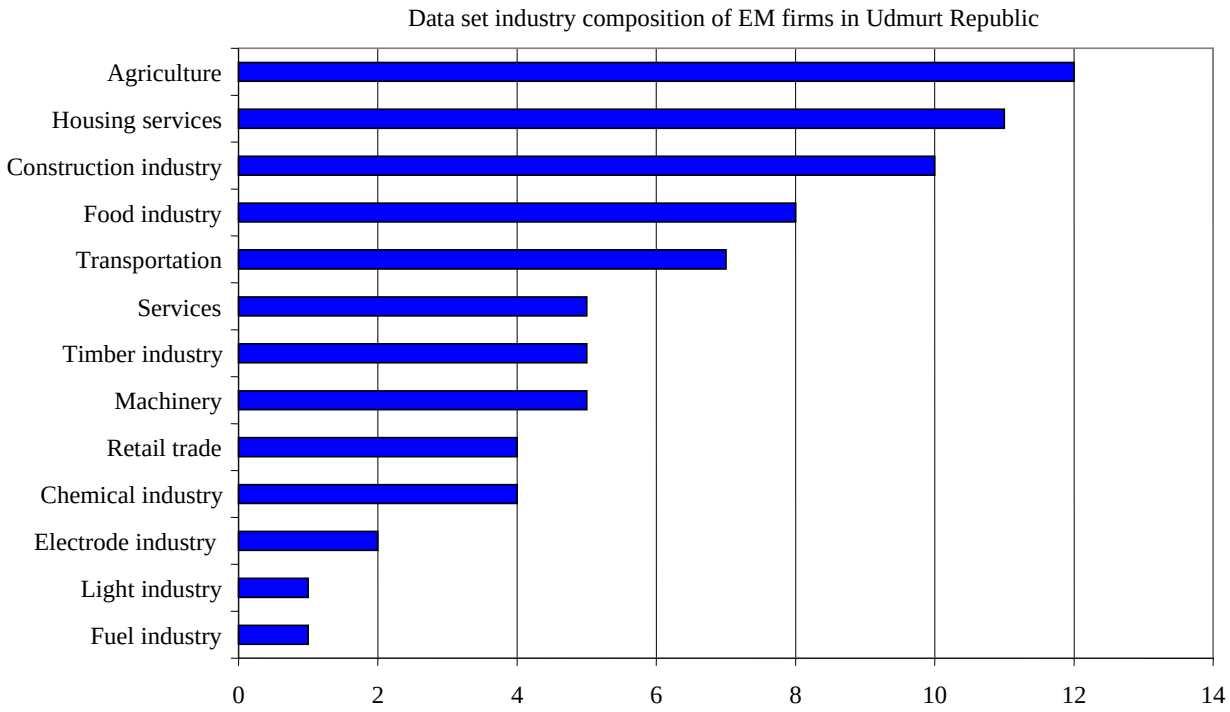

Fig. 4A. Industry composition for EM firms in the Udmurt republic, 75 total

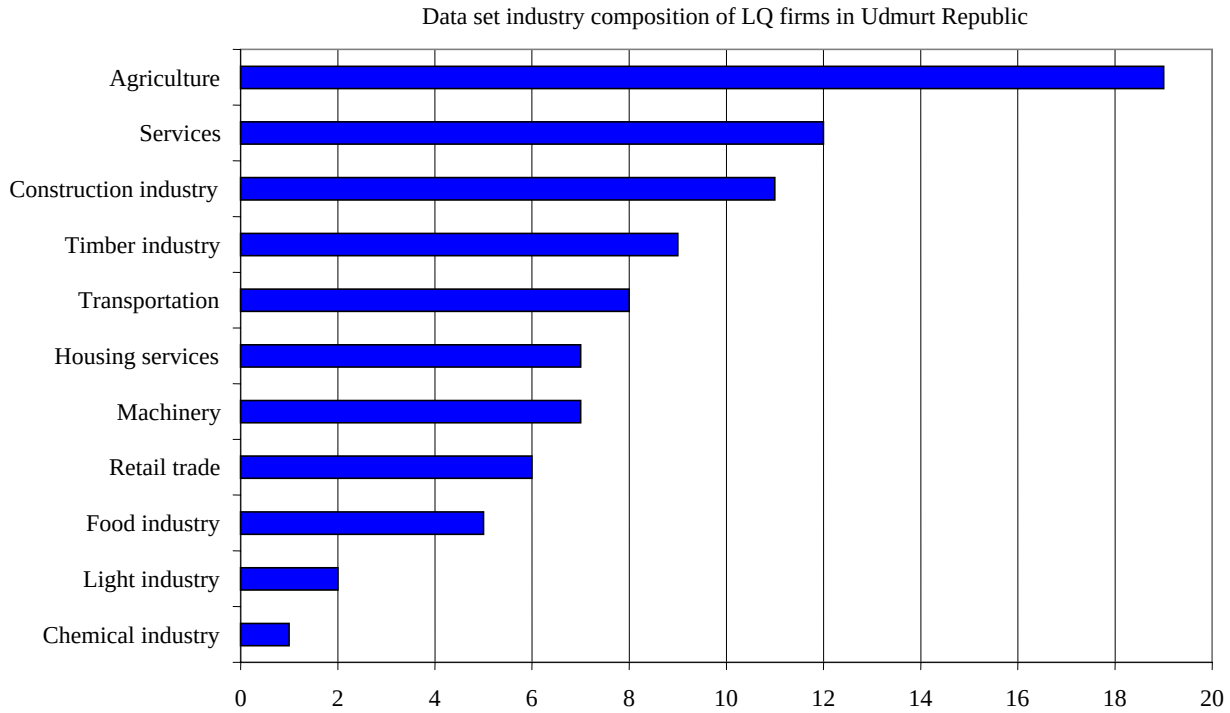

Fig. 4B. Industry composition for LQ firms in the Udmurt republic, 261 total

Note: Horizontal axis shows the number of fims.

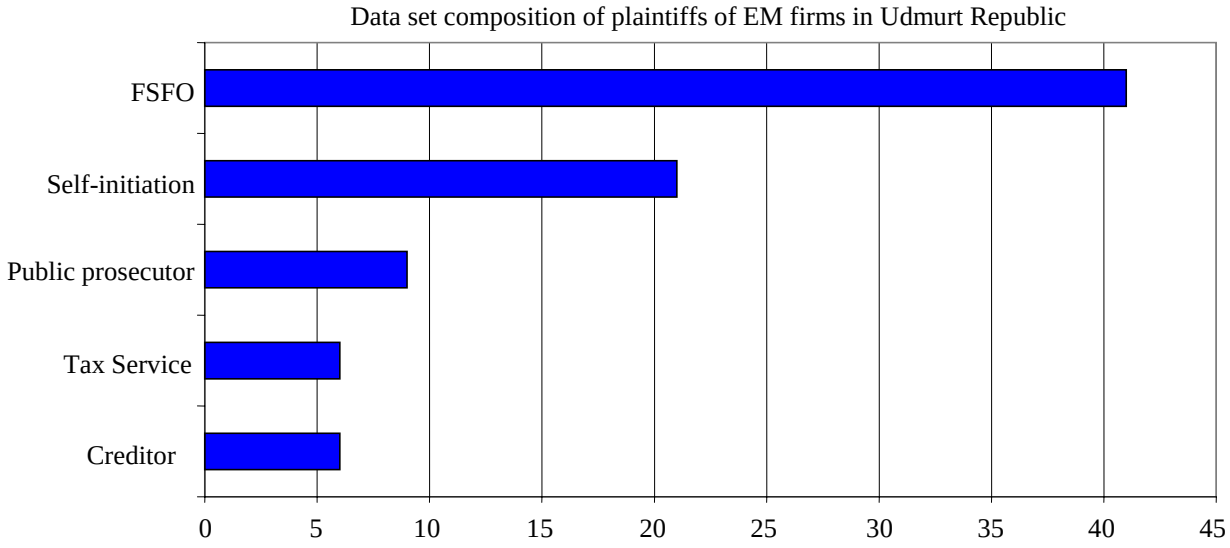

Fig. 5A. Plaintiffs composition for EM firms in the Udmurt republic, 82 total

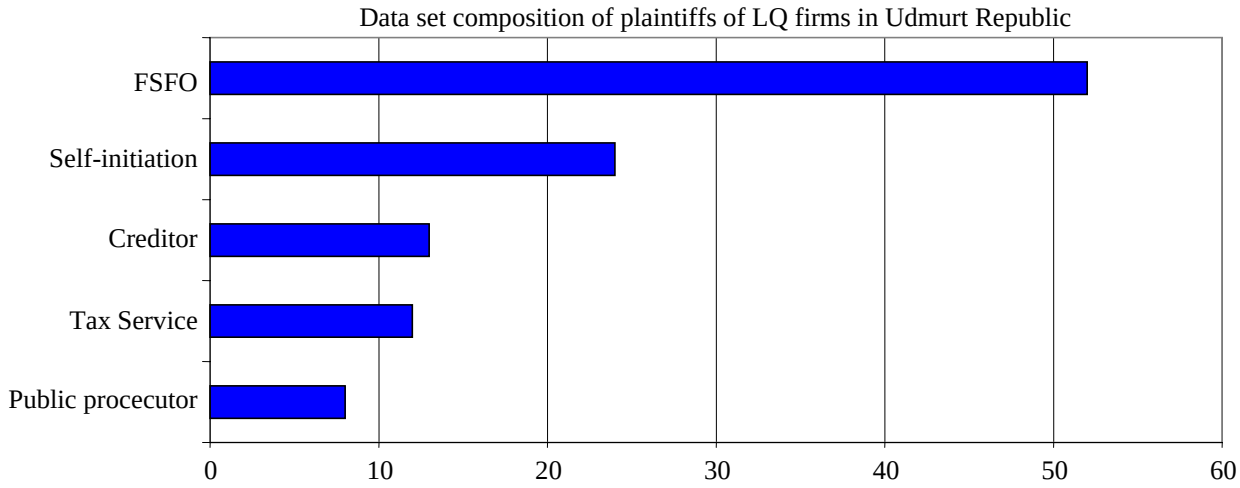

Fig. 5B. Plaintiffs composition for LQ firms in the Udmurt republic, 288 total

Note: Horizontal axis shows the number of firms.

VAR	Obs	m_b> m_a	m_b < m_a	m_b != m_a
Leverage	51		INCREASE	NO CHANGE
Current liquidity	61		INCREASE	NO CHANGE
Cash flow	80		INCREASE	NO CHANGE
Fixed assets	52		INCREASE	NO CHANGE
Accounts receivable	80			NO CHANGE
Wage arrears	80			NO CHANGE
Tax arrears	80	DECREASE		NO CHANGE
Trade arrears	80	DECREASE		NO CHANGE
Credit arrears	80			NO CHANGE
Sales	80			NO CHANGE
Labor prod.	72			NO CHANGE
Employment	72			NO CHANGE
Debt	82			NO CHANGE

Fig. 6. MNR analysis results for external management in UR

Note: m_b — mean before external management was imposed; m_a — mean after initiation of external management; m_b > m_a is highlighted if hypothesis is not rejected at 5% significance level.

A4. Tables

Table 1. Data set composition

Year	Firms by PC			Initiated BNKR by PC			Initiated BNKR by EM		
	NOT PC	PC	Total	NOT PC	PC before	PC after	NOT EM	EM	Total
1995	3155	164	3319	14	0	7	0	21	21
1996	3982	246	4228	48	1	3	1	51	52
1997	3460	344	3804	205	14	18	103	134	237
1998	3214	438	3652	609	22	24	369	286	655
1999	3186	560	3746	28	7	3	0	38	38
2000	3070	600	3670	110	4	2	94	22	116
2001	2752	612	3364	179	11	2	163	29	192
2002	2520	614	3134	261	15	2	242	36	278
2003	712	542	1254	15	5	0	11	9	20
2004	658	536	1194	17	2	0	12	7	19
Total	26709	4656	31365	1486	81	61	995	633	1628

Note: 'Firms by PC': NOT PC — not politically connected firms; PC — politically connected firms; 'Initiated BNKR by PC': NOT PC — not politically connected firms where bankruptcy is initiated in given year; PC before — firms that are politically connected before bankruptcy initiation in given year ; PC after — firms that become politically connected after bankruptcy initiation in given year ; 'Initiated BNKR by EM': NOT EM — liquidation initiated in given year (without EM preceding LQ); EM — external management initiated in given year.

Table 2. Summary statistics

Variable	Observations	Mean	Std. dev.	Min	Max
Non BNKR					
PC	26021	0.17	0.37	0	1
Leverage	9557	–0.98	0.95	–11.41	13.11
Current liquidity	9551	–0.05	0.8	–13.98	6.92
Cash flows	10604	0.07	0.54	–10.5	8.12
Sales growth	14865	–0.15	0.79	–3.9	5.96
Labor product. growth	14755	–0.06	0.75	–4.33	7.47
Employment growth	14765	–0.09	0.37	–4.82	2.45
Tax arrears	7900	–2.96	1.67	–14.1	7.4
Trade arrears	7870	–2.31	1.26	–12.64	7.14
Wage arrears	7752	–4.75	1.56	–14.7	4.57
EM					
PC	1460	0.1	0.31	0	1
Leverage	797	–0.72	0.76	–3.15	5.97
Current liquidity	796	–0.54	0.68	–3.25	1.99
Cash flows	836	–0.08	0.4	–3.63	2.88
Sales growth	1048	–0.17	0.88	–3.83	4.03
Labor product. growth	1035	0.01	0.82	–3.43	4.87
Employment growth	1038	–0.18	0.39	–3.16	1.35
Tax arrears	775	–1.97	1.3	–7.48	12.38
Trade arrears	773	–2.03	1.23	–8.91	13.14
Wage arrears	775	–4.4	1.47	–9.12	12.2
LQ					
PC	3884	0.04	0.2	0	1
Leverage	445	–0.36	0.9	–3.6	4.77
Current liquidity	445	–0.7	1	–5.69	1.91
Cash flows	484	–0.13	0.76	–13.44	1.77
Sales growth	835	–0.34	1.23	–3.66	5.02
Labor product. growth	767	0.09	1.3	–3.88	7.49
Employment growth	769	–0.45	0.66	–4.76	1.68
Tax arrears	431	–2.05	1.75	–11.04	6.63
Trade arrears	437	–1.85	1.3	–6.45	5.35
Wage arrears	427	–4.05	1.76	–11.09	4.62

Note: Mann–Whitney two-sample statistic confirms that pairwise difference in distributions between non bankrupt, externally managed, and liquidated firms for most of the ratios is significant at 5%, except for the insignificant difference between non bankrupt firms and liquidated in labor productivity growth; non bankrupt and externally managed in sales growth; externally managed and liquidated in cash flows, labor productivity growth, and tax arrears.

Table 3. Summary statistics of pre-EM and pre-LQ firms

Variable	Observations	Mean	Std. dev	Min	Max
PRE-EM					
PC	820	0.12	0.32	0	1
Leverage	509	–0.8	0.85	–11.41	1.23
Current liquidity	508	–0.21	0.69	–2.82	3.54
Cash flows	519	0.01	0.24	–1.2	1.37
Labor prod. growth	445	–0.05	0.65	–4.33	2.78
Employment growth	445	–0.07	0.31	–1.94	1.68
Tax arrears	509	–2.34	1.42	–11.41	4.43
Wage arrears	504	–4.42	1.44	–10.71	3.55
Trade arrears	504	–2.1	1.05	–5.39	5.86
PRE-LQ					
PC	6267	0.03	0.17	0	1
Leverage	1908	–0.67	0.88	–6.82	7.52
Current liquidity	1905	–0.35	0.82	–5.2	6.47
Cash flows	1990	–0.05	0.6	–7.42	8.12
Labor prod. growth	3289	–0.06	0.85	–4.18	5.73
Employment growth	3289	–0.15	0.42	–3.95	2
Tax arrears	1904	–2.15	1.61	–11.27	7.4
Wage arrears	1856	–4.38	1.54	–11.43	4.57
Trade arrears	1881	–2.03	1.38	–8.4	6.97

Note: Pre-bankruptcy characteristics of firms where formal procedure was initiated in the form of EM (pre-EM) or LQ (pre-LQ) are presented, *i.e*. firms where LQ was initiated after EM are in the group of pre-EM firms. Mann–Whitney two-sample statistic rejects sameness of distributions of pre-EM and pre-LQ firms' characteristics at 1% for PC, Leverage, Current Liquidity, Employment growth, and Tax arrears.

Table 4A. Comparison of characteristics of PC firms: low and high category for political "monopoly"

Variable	Observations	Mean	Std. dev	Min	Max
Low political "monopoly"					
Leverage	1013	–0.83	0.76	–3.65	1.71
Current liquidity	1013	0.12	0.78	–3.67	2.9
Cash flows	1026	0.08	0.88	–9.92	2.58
Labor prod. growth	1174	0.09	0.88	–3.81	7.47
Employment growth	1181	–0.09	0.48	–4.82	1.9
Tax arrears	1007	–3.33	1.66	–12.44	7.39
Wage arrears	984	–5.04	1.68	–13.5	4
Trade arrears	1011	–2.48	1.32	–11.2	6.07
High political "monopoly"					
Leverage	929	–0.7	0.77	–6.19	2.81
Current liquidity	929	0.07	0.8	–4.09	4.15
Cash flows	941	0.09	0.83	–10.5	6.69
Labor prod. growth	975	0.06	0.75	–3.68	3.99
Employment growth	977	–0.07	0.43	–4.27	2.45
Tax arrears	924	–3.34	1.74	–12.45	4.17
Wage arrears	898	–4.88	1.77	–14.55	2.3
Trade arrears	927	–2.08	1.21	–9.51	4.36

Note: Mann–Whitney two-sample statistic rejects sameness of distributions of high and low political "monopoly" at 1% for Leverage, Cash flows, and Trade arrears.

Table 4B. Probit estimates of demand for PC

	Years					
	1999	2000	2001	2002	2003	2004
Leverage	0.06	0.10	0.23	0.02	0.03	0.05
	(0.09)	(0.10)	(0.12)*	(0.10)	(0.14)	(0.15)
Current liquidity	0.04	0.12	0.21	0.09	0.12	0.12
	(0.08)	(0.09)	(0.10)**	(0.10)	(0.12)	(0.13)
Cash flows	0.21	0.31	0.23	0.11	–0.11	–0.19
	(0.15)	(0.18)*	(0.21)	(0.27)	(0.05)**	(0.09)**
Labor product. growth	0.04	0.07	–0.20	–0.06	0.02	0.03
	(0.07)	(0.07)	(0.09)**	(0.09)	(0.09)	(0.17)
Employment growth	–0.13	–0.11	–0.31	–0.02	0.00	0.41
	(0.12)	(0.13)	(0.14)**	(0.16)	(0.15)	(0.25)
Tax arrears	–0.26	–0.23	–0.22	–0.16	0.05	0.02
	(0.04)***	(0.04)***	(0.04)***	(0.04)***	(0.03)	(0.04)
Wage arrears	–0.03	–0.03	–0.02	–0.05	–0.10	–0.13
	(0.04)	(0.03)	(0.04)	(0.04)	(0.05)*	(0.06)**
Trade arrears	0.05	0.11	0.03	0.02	–0.03	0.01
	(0.05)	(0.05)**	(0.06)	(0.05)	(0.06)	(0.06)
IV: Political "monopoly"	–0.16	–0.24	–0.30	–0.30	–0.38	–0.51
	(0.09)*	(0.09)***	(0.10)***	(0.10)***	(0.12)***	(0.13)***
Constant	–1.68	–1.31	–1.23	–1.33	–0.71	–0.85
	(0.26)***	(0.24)***	(0.26)***	(0.29)***	(0.32)**	(0.38)**
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
F-stat. for IV	3.18	7.23	9.12	8.75	9.48	14.72
Observations	1116	1060	805	719	482	426

Note: Robust standard errors in parentheses. * — significant at 10%; ** — significant at 5%; *** — significant at 1%. Categorized political "monopoly" is an instrument.

Table 4C. Cox's proportional hazards model for instrumented PCs

Dependent variable is the hazards ratio			
Event	BNKR	EM	LQ
Instrumented PC	0.09	0.67	0.02
	(0.01)***	(0.74)	(0.01)***
Leverage	0.86	0.61	1.01
	(0.54)	(0.21)	(0.97)
Current liquidity	0.59		0.56
	(0.00)***		(0.00)***
Cash flows	0.62	0.75	0.57
	(0.00)***	(0.05)*	(0.00)***
Labor product. growth	0.98	0.86	1.02
	(0.87)	(0.37)	(0.89)
Employment growth	0.68	0.71	0.71
	(0.07)*	(0.08)*	(0.23)
Tax arrears	1.27	1.30	1.25
	(0.04)**	(0.17)	(0.16)
Wage arrears	0.94	1.13	0.86
	(0.32)	(0.29)	(0.06)*
Trade arrears	1.23	1.47	1.16
	(0.06)*	(0.07)*	(0.26)
Industry dummies	No	No	No
Observations	3216	3216	3216

Note: Robust p values in parentheses * — significant at 10%; ** — significant at 5%; *** — significant at 1%.

Table 5. Dynamic panel with fixed effects for log sales

	All firms	Non BNKR, EM	All firms	Non BNKR, EM
	ln(sales)	ln(sales)	ln(sales)	ln(sales)
PC	–0.03	–0.15	–0.04	–0.15
	(0.06)	(0.06)**	(0.06)	(0.06)**
EM	0.05	0.09	0.05	0.09
	(0.06)	(0.06)	(0.06)	(0.06)
LQ	–0.24	–0.29	–0.24	–0.29
	(0.08)***	(0.11)***	(0.08)***	(0.11)***
PC EM	0.09	0.14		
	(0.14)	(0.15)		
PC before EM			0.09	0.11
			(0.14)	(0.14)
PC after EM			0.11	0.18
			(0.25)	(0.28)
PC LQ	–0.11	–0.77	–0.11	–0.77
	(0.27)	(0.32)**	(0.27)	(0.32)**
LQ after EM	–0.13		–0.13	
	(0.13)		(0.13)	
Two lags of ln(sales)	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	10341	6095	10341	6095
Number of firms	2637	1320	2637	1320

Note: Robust standard errors in parentheses. * — significant at 10%; ** — significant at 5%; *** — significant at 1%. The same specification is applied for: complete set of firms; non-bankrupt and externally managed ones.

Table 6. Dynamic panel with fixed effects for log labor productivity (lprod)

	All firms	Non BNKR, EM	All firms	Non BNKR, EM
	ln(lprod)	ln(lprod)	ln(lprod)	ln(lprod)
PC	–0.15	–0.14	–0.15	–0.14
	(0.06)**	(0.06)**	(0.06)**	(0.06)**
EM	0.06	0.05	0.06	0.05
	(0.07)	(0.07)	(0.07)	(0.07)
LQ	0.15	0.05	0.15	0.05
	(0.09)*	(0.14)	(0.09)*	(0.14)
PC EM	0.21	0.20		
	(0.17)	(0.17)		
PC before EM			0.24	0.23
			(0.16)	(0.16)
PC after EM			0.16	0.16
			(0.33)	(0.34)
PC LQ	0.28	–0.23	0.28	–0.23
	(0.33)	(0.42)	(0.33)	(0.42)
LQ after EM	–0.17		–0.17	
	(0.16)		(0.16)	
Two lags of ln(lprod)	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	10172	5957	10172	5957
Number of firms	2627	1316	2627	1316

Note: Robust standard errors in parentheses. * — significant at 10%; ** — significant at 5%; *** — significant at 1%. The same specification is applied for: complete set of firms; non-bankrupt and externally managed ones.

Table 7. Dynamic panel with fixed effects for log employment (emp)

	All firms	Non BNKR, EM	All firms	Non BNKR, EM
	ln(emp)	ln(emp)	ln(emp)	ln(emp)
PC	0.02	–0.02	0.01	–0.03
	(0.03)	(0.03)	(0.03)	(0.03)
EM	0.04	0.06	0.04	0.06
	(0.03)	(0.03)**	(0.03)	(0.03)**
LQ	–0.37	–0.35	–0.37	–0.35
	(0.04)***	(0.07)***	(0.04)***	(0.07)***
PC EM	–0.03	–0.05		
	(0.06)	(0.07)		
PC before EM			–0.03	–0.09
			(0.10)	(0.12)
PC after EM			–0.02	0.01
			(0.05)	(0.05)
PC LQ	–0.35	–0.50	–0.35	–0.49
	(0.21)*	(0.28)*	(0.21)*	(0.28)*
LQ after EM	–0.00		–0.00	
	(0.08)		(0.08)	
Two lags of ln(emp)	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	10184	5968	10184	5968
Number of firms	2630	1318	2630	1318

Note: Robust standard errors in parentheses. * — significant at 10%; ** — significant at 5%; *** — significant at 1%. The same specification is applied for: complete set of firms; non-bankrupt and externally managed ones.

Table 8A. Summary statistics for external management

Variable	Obs	Mean	Std. dev.	Min	Max
EM					
Subjective measures					
Unique producer	82	0.17	0.38	0	1
Company-town***	82	0.29	0.46	0	1
Ownership					
State stake	82	0.07	0.21	0	1
Region stake	82	0.06	0.21	0	1
Town stake	82	0.25	0.41	0	1
Petitioner					
FSFO	82	0.5	0.5	0	1
Creditor**	82	0.06	0.24	0	1
Public prosecutor**	82	0.11	0.31	0	1
Self-initiation	82	0.26	0.44	0	1
Tax service	82	0.07	0.26	0	1
Financial ratios					
Leverage	82	–0.99	0.81	–4.66	0.09
Current liquidity**	81	–0.79	0.73	–3.21	–0.01
Cash flow	82	–0.5	0.43	–2.06	–0.02
Labor productivity	72	0.47	0.39	0.03	1.97
Employment**	72	4.37	0.65	2.3	5.53
Fixed assets	82	–3.83	1.35	–8.87	1.17
Accounts receivable*	82	0.4	0.49	0	3.37
Wage arrears***	82	0.09	0.2	0	1.06
Tax arrears***	82	1.69	1.97	0	6.4
Trade arrears***	82	0.94	0.83	0	3.22
Credit arrears***	82	2.02	2.29	0	7.6
Sales***	82	3.43	1.07	0.17	5.43
Number of creditors***	81	4.06	4.58	1	29
Debt in supervision***	82	947	749.82	120	4100

Note: Wilcoxon test: means of EM and LQ are significantly different * — at 10%; ** — at 5%; *** — at 1%.

Table 8B. Summary statistics for liquidation

Variable	Obs	Mean	Std. dev.	Min	Max
LQ					
Subjective measures					
Unique producer	288	0.16	0.36	0	1
Company-town***	288	0.13	0.34	0	1
Ownership					
State stake	288	0.06	0.19	0	1
Region stake	288	0.07	0.21	0	1
Town stake	288	0.12	0.3	0	1
Petitioner					
FSFO	288	0.48	0.5	0	1
Creditor**	288	0.14	0.35	0	1
Public prosecutor**	288	0.05	0.21	0	1
Self-initiation	288	0.22	0.41	0	1
Tax service	288	0.11	0.31	0	1
Financial ratios					
Leverage	277	–0.87	0.7	–4.82	–0.07
Current liquidity**	274	–0.61	0.6	–3.89	–0.01
Cash flow	278	–0.57	0.62	–4.06	–0.01
Labor productivity	277	0.54	0.5	0	3.16
Employment**	277	4.52	0.67	1.61	5.99
Fixed assets	277	–3.81	1.41	–8.89	–0.04
Accounts receivable*	278	0.3	0.39	0.01	3.1
Wage arrears***	278	0.2	0.33	0	2.28
Tax arrears***	278	3.7	0.85	0.08	4.62
Trade arrears***	278	0.62	0.69	0	4.24
Credit arrears***	278	3.61	0.89	0.14	4.59
Sales***	278	3.73	1.06	–0.67	5.47
Number of creditors***	288	24.22	14.47	0	50
Debt in supervision***	288	2262.62	1589.93	0	7100

Note: Wilcoxon test: means of EM and LQ are significantly different * — at 10%; ** — at 5%; *** — at 1%.

Table 9. Logit estimation for EM initiation (marginal effects)

	(1) dy/dx	(2) dy/dx	(3) dy/dx
Herfindahl–Hirschman Index	0.13	0.16	0.20
	(0.05)***	(0.06)***	(0.08)***
Creditor-initiated	–0.12	–0.11	–0.04
	(0.03)***	(0.03)***	(0.03)
Self-initiated	0.10	0.11	0.07
	(0.06)	(0.06)*	(0.06)
Municipal share	0.08	0.09	0.03
	(0.07)	(0.07)	(0.05)
Voting outcome	0.06	0.06	0.07
	(0.03)**	(0.03)**	(0.03)**
Leverage	–0.01	–0.01	0.03
	(0.02)	(0.03)	(0.05)
Current liquidity	0.02	0.02	0.03
	(0.03)	(0.03)	(0.05)
Cash flow	0.04	0.04	0.07
	(0.03)	(0.04)	(0.05)
Tax arrears	–0.09	–0.08	–0.05
	(0.02)***	(0.02)***	(0.02)***
Credit arrears	–0.04	–0.05	–0.05
	(0.02)***	(0.02)***	(0.02)***
Employment	–0.04	–0.03	0.02
	(0.02)	(0.03)	(0.03)
Absence of FSFO	–0.02	–0.02	–0.08
	(0.05)	(0.06)	(0.03)***
Industry dummies	Yes	Yes	Yes
Observations	313	313	159
Pseudo R2	0.43	0.45	0.47

Note: Robust standard errors in parentheses,* — significant at 10%; ** — significant at 5%; *** — significant at 1%. Results of the following regressions are presented: (1) full sample; (2) sample with winsorized Herfindahl–Hirschman Index and financial ratios at 5% and 95%; (3) sample where observations with Herfindahl–Hirschman Index and financial ratios beyond 5% and 95% percentile are excluded.

Table 10. Logit estimation for probability of low or high debt repayment in bankruptcy (marginal effects)

	(1) dy/dx	(2) dy/dx	(3) dy/dx
EM	–0.21	–0.22	–0.21
	(0.07)***	(0.07)***	(0.09)**
Herfindahl–Hirschman Index	–0.02	–0.01	0.00
	(0.02)	(0.03)	(0.04)
Leverage	–0.02	–0.03	–0.01
	(0.04)	(0.04)	(0.06)
Current liquidity	0.03	0.01	–0.14
	(0.04)	(0.04)	(0.09)
Cash flow	0.06	0.09	0.08
	(0.04)*	(0.05)*	(0.08)
Employment	–0.03	–0.03	–0.03
	(0.04)	(0.04)	(0.05)
Court's discretion	–0.05	–0.06	–0.06
	(0.05)	(0.05)	(0.06)
Absence of FSFO	0.12	0.12	0.21
	(0.06)*	(0.07)*	(0.06)***
Observations	343	343	206
Pseudo R2	0.06	0.06	0.07

Note: Robust standard errors in parentheses,* — significant at 10%; ** — significant at 5%; *** — significant at 1%. Results of the following regressions are presented: (1) full sample; (2) sample with winsorized Herfindahl–Hirschman Index and financial ratios at 5% and 95%; (3) sample where observations with Herfindahl–Hirschman Index and financial ratios beyond 5% and 95% percentile are excluded.

Table 11. Logit estimation for probability of debt repayment to unsecured creditor(marginal effects)

	(1) dy/dx	(2) dy/dx	(3) dy/dx
EM	–0.09	–0.08	–0.13
	(0.07)	(0.07)	(0.11)
Herfindahl–Hirschman Index	0.02	0.02	0.05
	(0.05)	(0.06)	(0.07)
Debt	0.00	0.00	0.01
	(0.01)	(0.01)	(0.01)
Leverage	–0.05	–0.06	0.01
	(0.03)	(0.03)*	(0.04)
Cash flow	0.05	0.08	0.13
	(0.03)*	(0.04)*	(0.06)**
Current liquidity	0.00	–0.01	–0.07
	(0.03)	(0.04)	(0.06)
Employment	–0.04	–0.04	–0.03
	(0.03)	(0.03)	(0.04)
Desired procedure	0.06	0.06	0.09
	(0.03)*	(0.03)*	(0.04)**
Court's discretion in favor of creditor	–0.05	–0.05	–0.12
	(0.06)	(0.06)	(0.08)
Absence of FSFO	–0.05	–0.05	–0.01
	(0.10)	(0.10)	(0.09)
Industry dummies	Yes	Yes	Yes
Observations	1289	1289	744
Pseudo R2	0.07	0.07	0.13

Note: Standard errors adjusted for clustering on firms' id in parentheses,* — significant at 10%; ** — significant at 5%; *** — significant at 1%. Results of the following regressions are presented: (1) full sample; (2) sample with winsorized Herfindahl–Hirschman Index and financial ratios at 5% and 95%; (3) sample where observations with Herfindahl–Hirschman Index and financial ratios beyond 5% and 95% percentile are excluded.

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